

COMMERCIAL CAR JOURNAL

DECEMBER 1960



THE MAGAZINE OF FLEET MANAGEMENT

A CHILTON PUBLICATION

SPECIAL REPORT
REPAIR COSTS

follows page 106

DON BUCK Says

**"DON'T SAY DON'T
TO DRIVERS"**

RADIO Tells TRUCKS WHERE TO GO

FLEETMEN Talk VEHICLE SELECTION

1960 "WHERE TO FIND IT" INDEX OF EDITORIAL FEATURES



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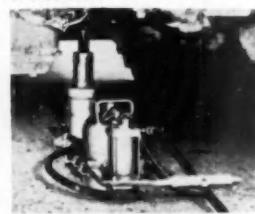
CP-792 "Little Giant" Air-Wrench. 1" square drive. Capacity: to 1-1/4" bolt size.



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Jesse Chenowith,
Maintenance Superintendent,
Salt Lake Transportation Co.

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Pedrick

FOR THE RIGHT RING JOB

In This Issue . . .



Plus . . .

Special
8-page report

ATA—Budd Co.

MAINTENANCE COST STUDY

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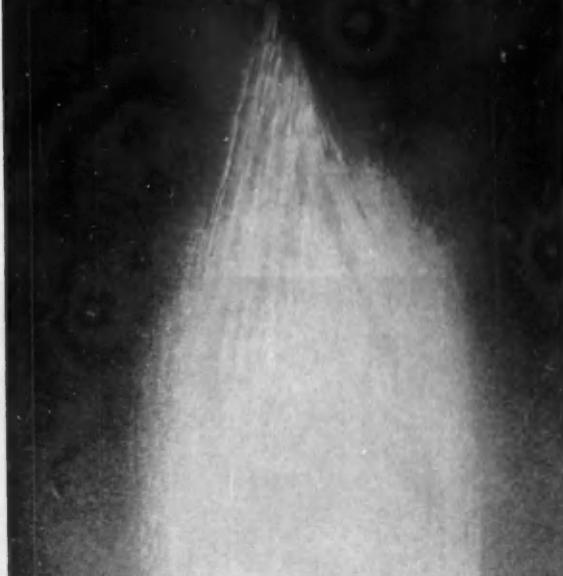
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COMMERCIAL CAR JOURNAL, December, 1960

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THE OVERLOAD

EDITORIAL COMMENT

Editors Get A Taste of "Western Hospitality"

MANY a guy has been trapped in the old predicament of not being able to see the woods for the trees. In a recent trip to Denver in our new Mobile Office we tangled with the adage in reverse.

We felt fairly well briefed on the "woods" of reciprocity, including the new multi-state regional agreements. But we sure didn't know all the "trees." You see, our rig is diesel-powered. That brings western hospitality into sharp focus — fast.

Things started off with only a harassing action in the little western Iowa town of Missouri Valley on Route 30. Those of you familiar with the route know that the weighing station is about six blocks off the route and across a 10-track railroad crossing. The flagman on "Main Street" apparently only works when the railroad yard is really busy . . . makes sure all trucks are properly delayed.

At the Nebraska line, we cleared our first port-of-entry without fanfare. Nobody paid any attention to the diesel. Deep in the heart of the state we found a diesel pump. We also found we had no permit to partake of the life-giving energy.

A phone call to Lincoln and several rounds with local officials later, we got back underway with full tanks and proper taxes paid.

Then came the Kansas line and a real welcome mat. Seems we classified as an "exempt carrier." You see, throughout the trip our only cargo was our rather elaborate built-in office facilities, plus personal baggage. So we got a big "E" (for exempt) on the windshield, sort of reminiscent of those Army-Navy banners we were all so proud of during World War II. We made sure

our fuel tanks were full while we had the chance.

Colorado had different ideas. "Why the hell would a guy want to bring an empty truck here?" . . . seemed to be the general idea. We sort of floored "the border guards." It was a bit too cool in the late evening for them to come out for a look, so we reached an intriguing compromise.

They accepted our word on contents, then made their own calculation on how much fuel a diesel would use from the border to Denver and back. Of course "a diesel" to them grosses out at 76,800 lb. Our actual GVW weight is just under 10,000 lb. We compromised again on *their* word.

From Denver I flew back to help get this issue out. If this makes it to the printed page it means that Ed Shea and Jim Winsor survived the rigors of "western hospitality."

To each of us, it means a new understanding of some of the particular trees in the woods of reciprocity. We got some added help in the form of a few well-chosen words from an old friend, Fred Sievers of the Colorado Motor Carriers Assn. And still later we learned we were real lucky that we didn't have to post a bond at the border. Purpose: To make sure we got the hell out of the state pronto.

Along about this point, a guy begins to recall some of the history of these great United States of ours and how they first got united. And he begins to wonder how far they are disunited.

We have long "bought" the principles of the two-structure tax—registration and fuel. And now that we're back among some of the 36 of our 50 states that are still reasonably united, we're ready to pitch in all over again for those principles. Any fresh ammunition will be gratefully received.

Bart Rawson
Editor



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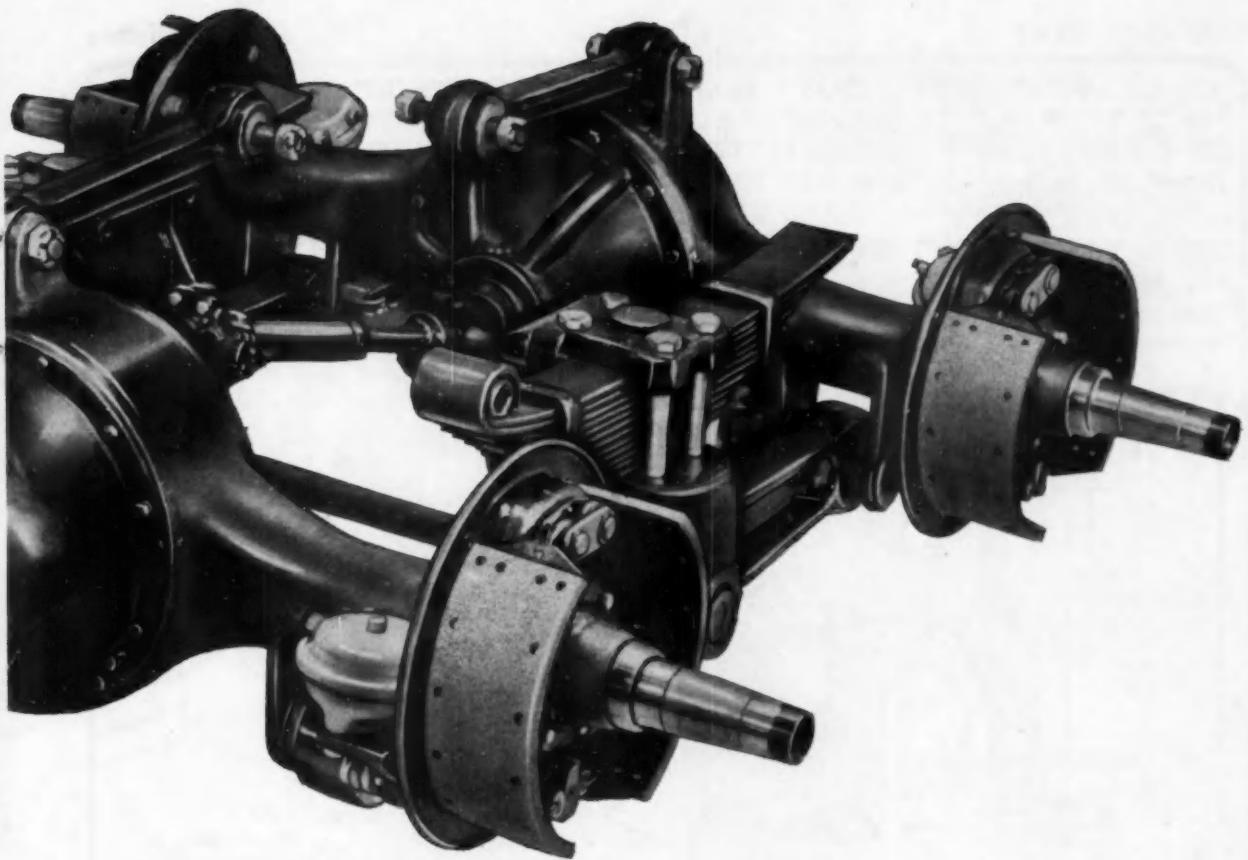
Induction-hardened axle shafts — Induction heating provides a hard, deep outer case and maintains a tough inner core for up to 10 times more resistance to shock loads. Axle shafts will not "fan-out"—they cut the possibility of fragments in the differential or axle housing.

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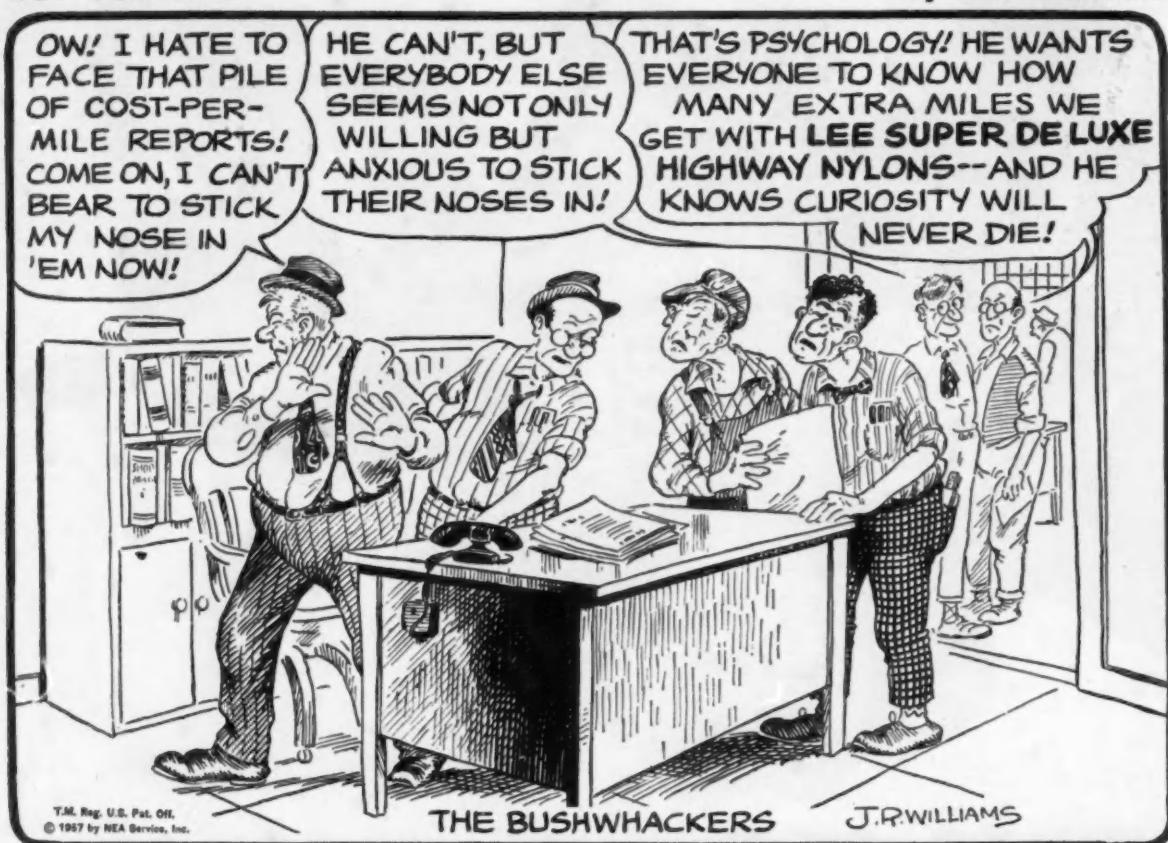
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Diesel Exhaust Pyrometers

Battery Polarity on '61 Dodges

Allison Ground Sleeve Installation

On-Vehicle Wheel-Bearing Check

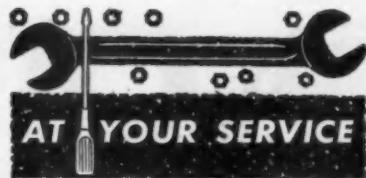
Code Number Locations on New Cars

Hydraulic Fan Drives on GM Diesels

Checking Timing Chain Condition

Testing Resistor Spark Plugs

High Heat Engine Operation



TIMELY NOTES ON TRUCK, BUS, PASSENGER CAR FLEET MAINTENANCE and OPERATION
briefed by ED SHEA, Technical Editor

larly sensitive to battery polarity. A recent service bulletin from the Dodge Div. warns that reversing polarity of the alternator system will immediately burn out the wiring harness and may possibly damage the alternator.

Excessive voltage in the system can cause extensive damage also. Dodge warns that if a "fast charger" type of battery charger must be used, it's important to always disconnect both battery cables first—and to never use a "fast charger" as a booster for starting.

Diesel Exhaust Pyrometers

WESTERN EXPRESS has added a new gage to the instrument panel of many of its large diesel-powered tractors. It's an exhaust pyrometer.

What's that? It's an instrument which monitors exhaust temperatures to protect the engine and turbocharger (when so equipped). Thermocouples installed near the exhaust manifold or in the turbocharger discharge pipe, transmit the temperature to the red and green gage on the dash.

As long as the needle remains in the green area, the driver knows everything is OK. Should it go up into the red, he knows he's working the diesel too hard and should either down-shift, ease-off on the accelerator, or even stop. Excessive exhaust heat can raise havoc with valves, pistons and particularly turbocharger impellers. It doesn't take long either.

Western Express is using pyrometers on all its Mack tractors used in double bottom service. Mack is offering them as optional equipment on most diesel-powered models. Western's new rule for drivers: "Drive by the pyrometer . . . Shift by the tachometer."

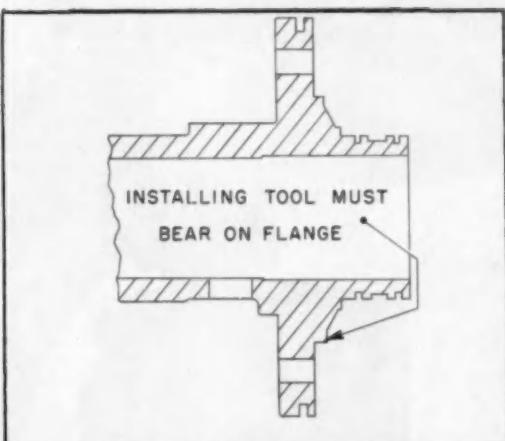
You might want to install pyrometers on your own diesels—or to specify them on new equipment, regardless of make.

Battery Polarity on '61 Dodges

THE NEW alternator charging system used on all Chrysler products for '61 is particu-

Allison Ground Sleeve Installation

UCLID REPORTS that the ground sleeve in the converter housing and adaptor assembly of the Allison CT-3340 transmission is



a tight fit. When you install this sleeve, be careful. You could crack the seal-ring groove wall on the end of the ground sleeve. To prevent this, use a tool which bears-down on the ground-sleeve flange (see sketch). It prevents the press ram from contacting the end of the sleeve.

On-Vehicle Wheel-Bearing Check

DAMAGED WHEEL bearings all too often go unnoticed until they fail completely. Removing, washing and inspecting them takes
(TURN TO PAGE 12, PLEASE)



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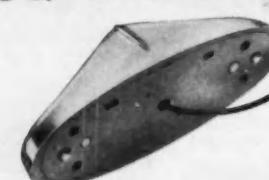
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DESIGNS WITH THE FLEET IN MIND

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FLEET CARS



Continued from Page 9

time. In fact, that doesn't always show what shape the bearings are in. It's even possible to damage good bearings in the process of inspecting and reinstalling them. A new method of checking wheel bearings *on the vehicle* has been developed by Micro-Geometrics which is more accurate and reliable than the visual method, according to service engineers at P. A. Sturtevant Co. Be sure you have a reliable torque wrench and use the following method:

1. Raise the vehicle and remove the cotter pin that locks the bearing adjusting nut in place.

2. While rotating the wheel, use a torque wrench and suitable-size socket to tighten the bearing adjusting nut to 30 lb ft. This makes certain that bearings and cups are properly seated.

3. Still with wheel rotating, back-off on adjusting nut and retighten to establish 5 lb ft torque on ball bearings and 7 lb ft on roller bearings.

4. Now, at the 5 or 7 lb ft torque setting, watch the torque-wrench dial closely. *With the wheel rotating*, the indicator should not oscillate. If it does oscillate, it indicates a defective wheel bearing. If it doesn't oscillate, your bearing assembly is in good shape.

Note: The slightest indentation in the bearing causes the indicator to oscillate under the conditions just provided. Oscillation will continue to increase up to 30 lb ft of torque. After that, contact of the bearing on the cup changes the load track by compression. Even slight oscillations indicate pending bearing failure. Therefore, bearing should be replaced immediately.

Code Number Locations on New Cars

NOW THAT all the 1961 model passenger cars have been announced you may be getting some of them in your fleet. Here's a list of the location of the code number plate used to identify colors, body styles, transmissions, axles, etc. Knowing the location will help you save time in locating the identifying numbers.

Ford, Thunderbird, Mercury, Lincoln Continental—numbers are on a patent plate on the left front body pillar between the front door hinges.

Studebaker—body color numbers are on a sticker on the bottom of the instrument panel underneath the glove compartment.

(TURN TO PAGE 16, PLEASE)

Have you sent for this FREE book and Calculator?

Here is a new book, written in simple language, that describes the "Do's" and "Don'ts" in welding USS "T-1" Steel. Included in the booklet is a handy heat input circular computer that helps you choose the proper welding machine settings. Both will help every welder to do a more reliable job and make his work easier.

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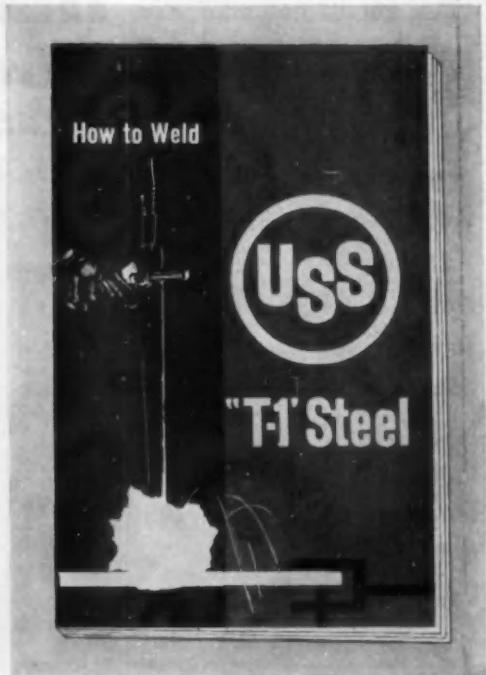
The information is based on the experience of our many field service men whose jobs are to help customers fabricate "T-1" Steel. It contains the results of nine years of work with hundreds of users, and shows how to apply common practices in the welding of "T-1" Steel.

As the booklet points out, welding of USS "T-1" Steel is not particularly difficult—but it is different than welding most other high-strength structural steels. To do it correctly requires some basic knowledge of the metal, of the electrodes, and the proper welding procedures.

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EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY CHEMICAL COMPANY

A DIVISION OF HUMBLE OIL & REFINING COMPANY

COMMERCIAL CAR JOURNAL, December, 1960

● More details? Circle 137 on reply card inside back cover





MORE TRUCK TARP TIPS FROM REEVES

COVERLIGHT IS 10 WAYS RIGHT FOR YOUR RIGS

- 1** Completely waterproof cargo protection.
- 2** Tough nylon, coated with synthetic rubber.
- 3** Lightweight. One man handles it easily.
- 4** Easy to maintain, lasts longer, cuts costs.
- 5** Resists weather, abrasion, most acids and oils.
- 6** Won't rot or mildew, even when stored wet.
- 7** Never stiffens in cold weather. Always pliable.
- 8** Won't shrink or stretch. Always a perfect fit.
- 9** Wide choice of weights and colors.
- 10** Available in hypalon, or neoprene coated nylon.

COVER RIGHT WITH COVERLIGHT!

SEE YOUR TARP SUPPLIER OR WRITE TO: DEPT. CC12

REEVES VULCAN

Reeves Brothers, Inc., Vulcan Products Division
1071 Avenue of the Americas • New York 18, New York

TRUCKS



Continued from Page 12

Falcon, Comet—numbers are on the patent plate fastened to the rear face of the left door.

Cadillac—color numbers are on a plate on the right side of the fire wall near the top.

Dodge, Dart, Lancer—the number plate is on the top of the cowl on the right side under the hood.

Buick—number plate is on the right side of the fire wall under the hood.

Rambler—color numbers are on a plate on the wheelhouse on the right side of the fire wall under the hood.

Pontiac—number plate is on the top part of the fire wall under the hood.

Willys—numbers are on the upper right side of the fire wall under the hood.

Chevrolet, Corvair, Corvette—numbers are on a plate on the right side of the dash under the hood and below the water heater control.

Chrysler, Imperial—numbers are on the left front portion of the fire wall under the hood.

Oldsmobile—plate is on the left front section of the fire wall underneath the hood.

Plymouth, Valiant, DeSoto—number plate is on either the radiator yoke or engine side fire wall.

Hydraulic Fan Drives on GM Diesels

GMC HAS ANNOUNCED an important torque spec for the hydraulically driven fan used with V-6 and V-8 diesel truck engines. If it is necessary to remove the fan blade assembly, the hub nut should be torqued to 200-225 lb ft when the unit is reassembled.

Equally important, says GMC, is the use of Permatex or similar sealer on the face of the fan hub and on the shaft threads. The sealer will prevent possible oil leakage through the fan nut. Sealer should not be applied until after the fan hub is pressed into position on the shaft.

Checking Timing Chain Condition

AN EASY torque wrench test will tell you the condition of a timing chain, says P. A. Sturtevant Co. Test can be made during engine overhaul or anytime the timing chain cover has been removed.

Test is done without removing the chain from its sprockets. All that's needed is a good torque wrench and a steel scale. Here's what to do:

(TURN TO PAGE 20, PLEASE)

**THERE'S NO BETTER
BRAKE FLUID
FOR ANY CAR
THAN THE ONE
THAT GOES INTO
ALL NEW GM CARS!**



That's why it pays to stock Delco Super 11 Heavy Duty brake fluid, improved with HTD.

You have a ready-made market because—in 1961, as for the past twelve years—Delco Super 11 is original equipment on all new General Motors cars. And because it is specially designed to give the extra braking protection needed with today's high speeds and heavy traffic conditions, your other customers—both passenger and commercial—will want it, too. There's no better brake fluid replacement.

Delco Super 11 Heavy Duty brake fluid is readily available everywhere through the United Motors System and General Motors car and truck dealers.

DELCO SUPER 11 EXTRA HEAVY DUTY • is compatible with all rubber and metal parts! • is chemically inert and physically stable! • **GIVES MORE SAFE STOPS FOR CUSTOMERS, MORE SALES FOR YOU!**

DELCO MORaine 
Division of General Motors, Dayton, Ohio

Mileage on sleeper runs opened their eyes



"We have plenty of tough runs," writes Karon W. Thomas, Vice President of Southern Plaza Express. "But the toughest is a sleeper jump from St. Louis to Houston."

"On this one we battle all kinds of driving conditions —



WORLD'S
TOUGHEST TRUCK TIRES BY

GOOD

Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

after they changed to tough Cross-Ribs

hills, curves, ice, snow — even a flood or two, on occasion.

"Formerly, with standard tread tires, we averaged about 25,000 original miles. Then we switched to Hi-Miler Cross-Ribs—and the mileage figures opened our eyes. The average

jumped up to 105,000 miles per tire, before recap.

"Since we roll up over 18 million miles a year, we've made some mighty sweet savings with Cross-Ribs.

"Cross-Ribs tough? You can say that again—and again."



This report is about Hi-Miler Cross-Ribs, but it's equally true of the full line of Goodyear Truck Tires. They're the world's toughest, class by class. Here's why:

Super-Tough Bodies—Built with cords that are tempered like steel with Goodyear's famous 3-T Process (Tension, Temperature and Time). Result is superior resistance to heat, shock and fatigue—longer life, recaps, too.

Super-Tough Treads—Compounded with the newest rubber plus the latest chemicals (including advanced super-toughening agents), for more original mileage than from conventional tires.

In addition to super-toughness and economy, Goodyear tires have the precision balance required by today's smoother-riding trucks. Buy or specify a set or two and you can prove, to your own satisfaction, Goodyear tires give you the lowest-cost, most trouble-free mileage you've ever enjoyed. See your Goodyear dealer or write: Goodyear, Truck Tire Dept., Akron 16, Ohio.

And always remember — lots of good things come from Goodyear.



YEAR

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND

South Wind PREHEATER



provides quick, easy starting in coldest weather!

● The South Wind Preheater gives you the most practical and inexpensive way to solve cold weather starting problems. It pre-heats the engine coolant rapidly and circulates it through the block to heat the engine for quick, easy starting. The Preheater automatically maintains the temperature of the engine coolant between 140° and 160°F.

With the South Wind Preheater, trucks can be stopped and parked anywhere with easy starting. Outdoor winter storage is practical even at extremely low temperatures. Construction equipment can be shut down at any time without regard to the ambient temperature. Stationary engines stay warm, ready for rapid starting when needed.

The South Wind Preheater can reduce your operating costs. Write today for complete information.

Check these features of South Wind Combustion Heaters:



Normally maintenance-free—parts and service are available nationally.



Automatic thermostatic control.



Economical to operate—maximum heat output at minimum cost.



Operates independently of the engine, but uses fuel and electrical power from the vehicle system.



South Wind
DIVISION
STEWART-WARNER
CORPORATION

1514 Drexel Street • Indianapolis 7, Indiana

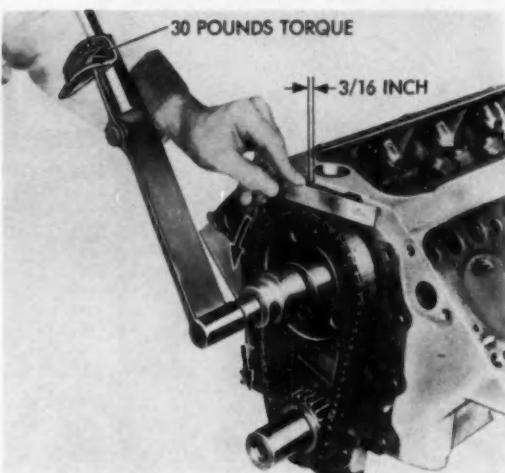
20 ● More details? Circle 141 on reply card inside back cover

ELECTRICAL



Continued from Page 16

1. Block the crankshaft so that it cannot move in either direction.
2. Apply 15 ft lb torque to the camshaft bolt in a *counterclockwise* direction. If the cylinder heads are *installed*, apply 30 ft lb of torque.
3. Place the steel scale next to the timing chain and take a reading of the chain position.
4. Keep the scale stationary and apply 25 ft lb of torque to the camshaft bolt in the *clockwise* direction with the cylinder heads removed, or 45 ft lb if the heads are installed.
5. Note the amount of chain movement on the scale. The chain should be replaced if total movement exceeds 3/16 in. (see photo).



CAUTION: Make sure the crankshaft is securely blocked in one position so that it can't move when torque is applied to the camshaft bolt. Any movement of the crankshaft will give an inaccurate reading on the scale and an untrue test of the timing chain condition. Also, make sure you're using a quality torque wrench and an accurate steel scale.

Testing Resistor Spark Plugs

WHEN TESTING resistor-type spark plugs in a plug tester where the spark is observed visually, remember that the spark of a resistor plug will not be as visible as that of a non-resistor plug. Champion Spark Plug says the resistor eliminates high frequency oscillations which produce much of the light and noise occurring in a non-resistor spark plug.

Resistor plugs require closer observation to determine the actual quench point for accurate

COMMERCIAL CAR JOURNAL, December, 1960

comparison with a new plug. They should be tested in the same manner as regular type plugs but remember to compare a resistor plug to a resistor plug, and not with a regular plug. Otherwise, you may be throwing away a perfectly good plug.

Champion also points out that resistor plugs should not be tested by placing them in series with a 110-volt light bulb. Nor should they be tested with high-current, high-voltage devices such as oil burner transformers or neon light transformers. The resistor element is not designed to handle the heavy currents of a tester of this kind.

High Heat Engine Operation

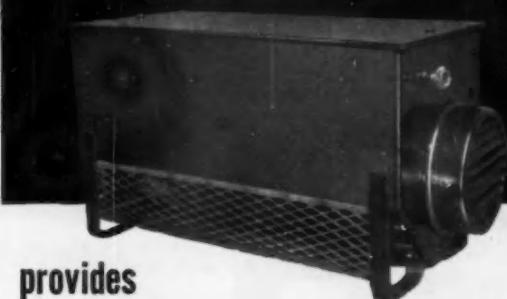
HERE ARE primary difficulties to look for when checking an engine for cause of abnormally high operating temperatures. Failure to correct this condition as soon as it becomes apparent may result in piston failure or other engine damage. Eight points to check on are:

1. Improper cooling system operation.
2. Lean fuel mixture.
3. Air intake leaks (leaky gaskets).
4. Lugging.
5. Improper valve timing.
6. Improper fuel (too low octane rating).
7. Water leakage.
8. Too late or too early ignition timing.



"I'm askin' your assistance in training this new man—
DON'T TELL HIM HOW YOU WOULD DO ANYTHING!"

South Wind UNIVERSAL INSTANT HEATER



**provides
complete passenger comfort and
cargo protection in coldest weather!**

● The new South Wind Universal Instant Heater provides the extra heating needed for almost any vehicle . . . safely, economically and efficiently.

This combustion-type air heater is so flexible that it can be installed easily in a wide variety of vehicles. It provides passenger comfort in station wagons, ambulances and crew trucks . . . protects perishable cargos in round-the-town delivery trucks and in cross-country vans and trucks.

Operating independently of the standard heating system, the Universal Heater delivers controlled hot air instantly with a turn of a knob.

Your vehicle heating problem can be solved by South Wind. Write today for complete information.

Check these features of South Wind Combustion Heaters:



Reaches peak capacity
in seconds.



Fully guaranteed by Stewart-Warner, nationally known since 1938 for famous South Wind combustion-type automotive heaters.

SAFETY SEALED

Absolutely safe . . . sealed, stain-
less steel combustion chamber.



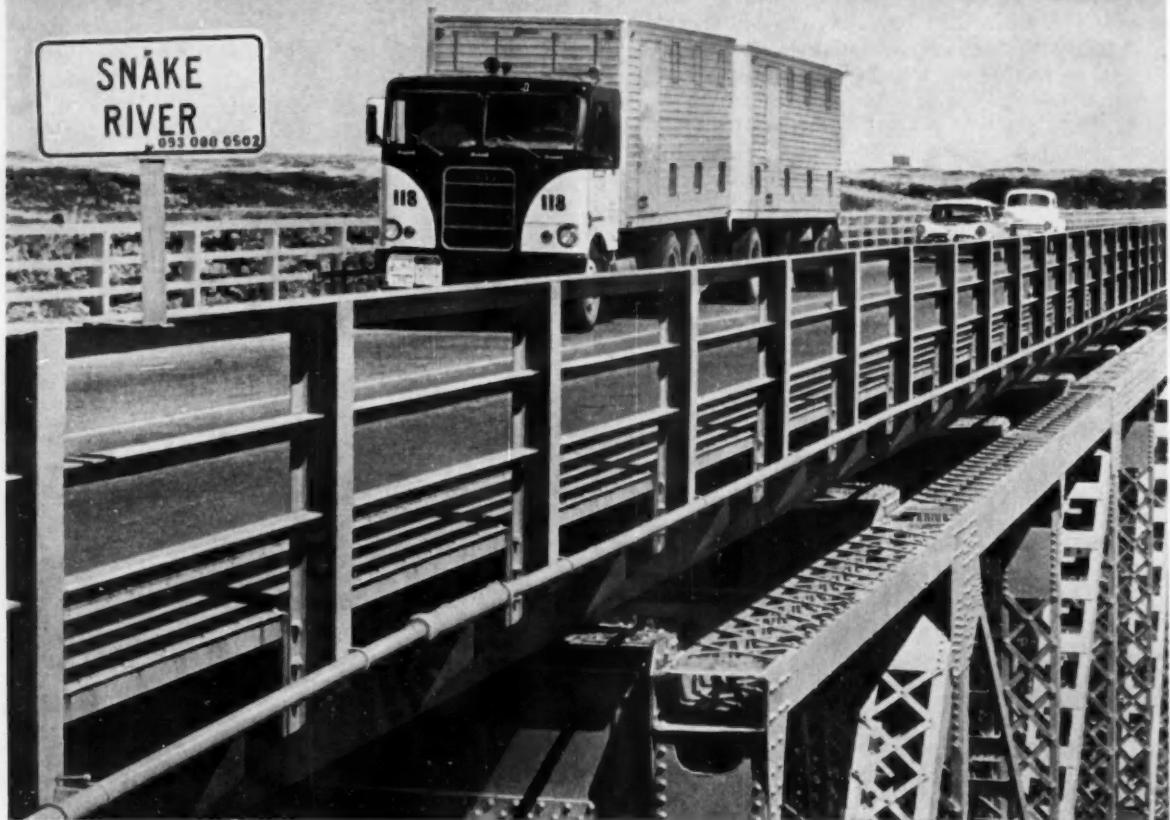
Simple operation . . . just one
knob to operate the heater.



South Wind
DIVISION
STEWART-WARNER
CORPORATION

1514 Drexel Street • Indianapolis 7, Indiana

ENGINEER'S FIELD REPORT



RPM DELO Special Oil protects so well... trucks work 25% longer before overhaul

Wagner Transportation Co., Twin Falls, Idaho, used to schedule engine overhauls for its over-the-road diesel tractors at 200,000 miles. After changing to RPM DELO Special Oil, however, engines dismantled at this interval showed so little wear . . . were in such good condition throughout . . . that overhaul period was extended to 250,000 miles.

"RPM DELO Special Oil does the best job of any oil we've ever used," says Wagner's Master Mechanic, Ike Rile.

"We've used it since 1952 . . . have yet to find a stuck ring. It holds down engine wear, eliminates sludge and varnish...oil consumption is moderate, too! We've tried competitive oils but in our opinion there's no comparison."

Hauling livestock, produce and general freight, Wagner Transportation Co. rigs operate throughout the West in every sort of temperature extreme . . . travel close to 2½ million miles per year. Present fleet includes 10 Whites and 10 Kenworths.

RPM DELO OIL reduces wear and prolongs engine life because it clings to parts whether the engine is running or idle . . . hot or cold. Piston rings stay free because an anti-oxidant fights gum and lacquer formation and a special detergent keeps parts clean. Other additives prevent corrosion of bearing metal and crankcase foaming.

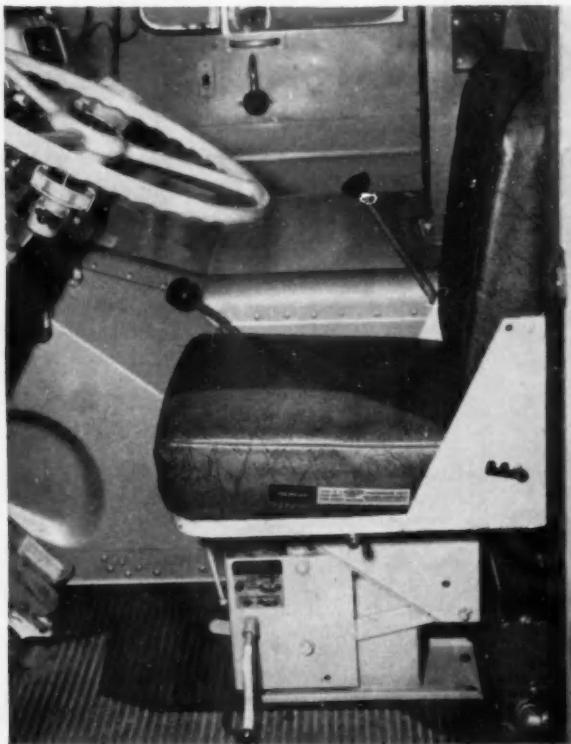
Why not try RPM DELO OIL? Chances are it can cut your costs, lengthen equipment life. Just call your local representative or write any company listed below:



STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20
THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey

TRADEMARKS "RPM DELO" AND CHEVRON DESIGN REG. U.S. PAT. OFF.

• **STANDARD OIL COMPANY OF TEXAS**, El Paso
• **THE CALIFORNIA COMPANY**, Denver, Colorado



Now ALL your trucks can ride like passenger cars

No matter what trucks you operate, you can now remove all roughness from truck driving with Bostrom suspension seats. Either the Viking T-BAR* or Westcoaster* suspension seat fits in all makes and types of trucks on the road.

This "human-engineered" seating produces something of almost immeasurable value: satisfied, appreciative, productive drivers. By removing jolts, jars and road shock from truck driving, driver fatigue

practically disappears. Drivers are more alert, less irritable, less prone to accidents. This boosts productivity, reduces operational costs.

The new Viking T-BAR seat fits all regular cabs, as well as cab-forward models. The Westcoaster seat fits wherever a pedestal-type seat is best suited. Both seats may be installed in your older trucks, or specified in new models. See your parts distributor or truck dealer.

*Trade-Mark

BOSTROM[®] 25
IN OUR 25TH YEAR

BOSTROM CORPORATION
133 West Oregon Street • Milwaukee 4, Wisconsin



WESTCOASTER Pedestal Suspension Seat
Preferred for trucks such as Diamond T 921 and 931-C,
International DCO and ACO, Kenworth, Mack G Model,
Peterbilt and White Freightliner.

NEW VIKING T-BAR Suspension Seat
For all type of cabs; features compactness for comfortable leg room and clearance in LCF and low-cab COE models of all makes.

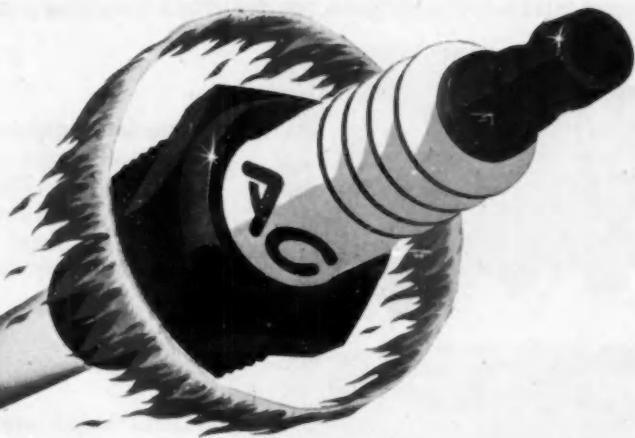


hot tip for truck



AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS ▷

ECONOMY



Greater operating economy in all light and heavy-duty applications is assured by AC Fire-Ring Spark Plugs—ignition-engineered to give you longer-lasting peak performance throughout thousands of load-carrying miles. Always select performance-proved AC Spark Plugs. Make the most of your power.

ECONOMY

In light-duty applications—AC's exclusive Hot Tip heats faster to stay clean longer—cools faster to prevent costly power-robbing pre-ignition.

ECONOMY

In all applications—ACs are engineered to meet every engine's exact power requirements. AC offers the industry's most complete spark plug line.

ECONOMY

In heavy-duty applications—AC's superior sealing qualities prevent gas leakage to assure longer spark plug life and continued mileage-boosting economy.



FIRE-RING
SPARK PLUGS

▷▷▷▷▷ POWER ACHIEVERS FOR THE TRUCKING INDUSTRY

MORE PAYLOAD PER TRIP, MORE STOPS PER DAY...

There's A Route-Designed Divco

The DIVCO difference in custom features at production-line savings puts wholesale and retail delivery on a paying basis



Special requirements are met economically right on the DIVCO production line. This common carrier's DIVCO's are factory-equipped with roll-up rear doors, skylights, and wire-mesh bulkhead doors.

Clam bakes and coffee breaks are DIVCO's dish, too. SNUB-NOSE models deliver the goods, while DIVIDEND walk-through models are used as "mobile restaurants" by Ohio's largest caterer.

All around the town they go, and wherever they stop, DIVCOs deliver *more!* This model 72 DIVIDEND provides bonus storage space for two extra book bins, thanks to job-engineered "Drop-Frame" design and "Squared-Up" body.



SALES AND SERVICE FROM COAST TO COAST

ALABAMA—Birmingham

Dunham GMC Co., Inc. FA 2-4563
Hotz GMC Trucks, Inc. HE 8-1676

ARIZONA—Phoenix

Truck Equipment Co. AP 8-6274

CALIFORNIA

Los Angeles

Engs Motor Truck Co. RA 3-0563

Sacramento

Trans. Parts & Equip. Co. GI 1-2735

San Diego

Engs Motor Truck Co. BE 2-0115

San Francisco

Engs Motor Truck Co. AT 2-4884

San Jose

Truck Parts & Equip. Co. CY 2-4822

COLORADO—Denver

Centelio Motor Co. KE 4-7121

CONNECTICUT

Hartford

Brown-Moran Sales Co., Inc. JA 5-1126

New London

Samuel Fishkin & Son GI 3-1817

Torrington

Corsi Bros., Inc. HU 9-3855

West Haven

Lewis-Divco, Inc. WE 3-5481

DISTRICT OF COLUMBIA

Divco-Washington Sales Corp. LI 4-7484

FLORIDA

Miami

Hotz Truck Sales & Serv., Inc. NE 5-0331

Orlando

Acme Auto Service GA 5-8639

Tampa

Ray B. Cralle Co. 2-8511

GEORGIA

Atlanta

Divco Truck Sales & Ser. JA 5-4864

Chamblee

Columbus Motor Co. FA 2-3333

ILLINOIS

Chicago

Advanced Divco, Inc. AV 3-7709

Hoefle's Auto & Truck Repair WA 5-0753

Rock Island

Tri-City Divco Sales Co. 8-6012

Springfield

Springfield Divco Co. 7843

INDIANA

East Chicago

J. A. Fugeman Truck Sales & Serv. EX 7-2067

Indianapolis

Gambs Truck Sales, Inc. ME 3-4533

South Bend-Mishawaka

Divco-Indiana Truck Sales, Inc. BL 9-5249

IOWA

Cedar Rapids

Transport Truck & Equip., Inc. 3-8261

Dixie Motor Co.

Iowa Bus Sales Co., Inc. "Call Info."

Sioux City

Neuman Motor Co. 5-1673

KENTUCKY—Louisville

General Truck Sales & Service JU 3-3611

LOUISIANA—Lafayette

Holloway & Co. CE 5-8088

MAINE—Portland

Divco-Wayne Sales & Service VI 6-5557

MASSACHUSETTS

Boston

Divco Division, Inc. HI 2-2310

Lawrence

Stevens, Inc. * 8-5462

Springfield

Detroit Divco Trucks, Inc. HI 9-5687

Worcester

Worcester Divco Co. PL 2-1929

MARYLAND—Baltimore

Dixie-Washington Sales Corp. SA 7-5249

MICHIGAN

Detroit

Detroit Divco Truck Sales, Inc. DR 1-5700

Grand Rapids

Detroit Divco Truck, Sales LE 4-4300

Port Huron

Dixie Port Huron "Sales & Service"

Saginaw

Wm. Rice, Jr. * PL 2-6685

Scottville

Howard E. Thiel PL 7-2504

MINNESOTA

Duluth

Divco Sales & Service RA 7-1569

St. Paul

Rilm Motor Co. MI 6-7333

MISSOURI

Kansas City

General Body Mfg. Co. HA 1-1380

St. Louis

Gus Schroeder Truck Repair Co. GA 1-0885

MONTANA

Billing

Billing White Truck Co. 9-3142

Great Falls

Great Falls White Co. "Call Info."

NEBRASKA—Omaha

Pixley Truck Sales Co. WE 9600

NEVADA—Reno

Truck Parts & Equip. Co. FA 2-8608

NEW HAMPSHIRE—Manchester

Truck Center, Inc. NA 3-7288

NEW JERSEY

Bradley Beach

General GMC Sales, Inc. PR 5-2565

Irvington

Divco Service Center, Inc. ES 2-4209

Peterson

Dorset Motors, Inc. AR 4-0700

NEW MEXICO—Albuquerque

Transportation Equip., Inc. CH 3-2345

NEW YORK

Albany

Hall-Elert GMC Sales, Inc. AL 4-7178

Binghamton

Taylor-White Trucks, Inc. 2-6466

Bronx

Georgia Motors, Inc. DA 9-3700

Brooklyn

Diamond T Sales & Ser., Inc. EV 9-5757

Buffalo

Phillips Bros. Garage, Inc. TA 3226

B.R. & Co., Inc. RI 3335

Hudson, L.I., Inc. WE 1-7900

Minola Mack Dist., Inc. 1299

Huntington Station

McCarthy's Servicenter

1299

Middle Island

Minola Mack Dist., Inc. 1299

Middle Village

Dixie Island

Sales & Service

Rochester

Phillips Garage

Syracuse

L. B. Smith, Inc.

Utica

Goodman Motor Sales Co., Inc. 2-3212

Watertown

Buckley Mack Co., Inc. SU 8-0800

White Plains

Divco & M&M Garage

9-0375

NORTH CAROLINA

Charlotte

Cook Body Co. ED 2-4138

Raleigh

Raleigh Mack Sales, Inc. TE 3-4602

Winston-Salem

Carolina Garage, Inc. PA 3-7305

OHIO

Cincinnati

Hilinger Truck Sales, Inc. KI 1-4213

Cleveland

Divco Cleveland Sales, Inc. EN 1-5969

Columbus

Geo. Byers Sons, Inc. CA 1-7601

Toledo

McMillen Motor Sales

Youngstown

Armstrong Motor Truck

Sales, Inc.

RJ 4-5253

OKLAHOMA—Oklahoma City

General Truck, Inc. FO 5-4417

Commercial Car Journal, December, 1960

Truck For Every Multi-Stop Use!

The DIVCO difference in workability and reliability speeds deliveries, cuts down-time, and brightens your profit-picture.

Dependability recently sold this fleet on 50 more DIVCOs for on-the-spot, in-the-truck cleaning service. Every DIVCO is built to start-and-stop all day, idle for hours if necessary, and still give top gas mileage.



Ask the relaxed driver of any DIVCO in midtown or inter-urban package delivery service—he'll tell you how DIVCO's traffic-handling and load-handling make a difference at the end of a profitable Divco-day.

FBI-2

OREGON—Portland
Automotive Equipment Co. BE 4-7411

PENNSYLVANIA

Allentown Wm. F. Deibert, Inc. HE 2-6172

Allisons Keller Motor Sales WI 3-8187

Erie Divco Truck Service 4-6294

Lancaster A. B. Klinger & Son, Inc. 3-3633

Philadelphia Divco Philadelphia Sales Corp. BA 2-6053

PITTSBURGH
Koch Service, Inc. FA 1-4029

Reading Reading Mack Dist., Inc. WA 5-9433

York York Mack Dist., Inc. 5713

Roswell Garage, Inc. 5713

Pierce Chevrolet, Inc. 3-4900

SOUTH CAROLINA—Charleston

Southern Truck Co. RA 2-0258

RHODE ISLAND—Pawtucket

Pierce Chevrolet, Inc. 3-4900

UTAH—Salt Lake City

Diamond T Utah, Inc. 5-7454

TEXAS

Amarillo Bruckner Truck Sales, Inc. DR 2-6785

Fort Worth Diamond T Sales Co., Inc. ED 2-3273

Houston Patco Co., Inc. CA 3-4296

WISCONSIN—Milwaukee

August Schmid Co. DR 2-7329

WEST VIRGINIA

Huntington Mueller White Truck Co. 5-7454

Wheeling Bruce H. Seabright

WYOMING

Dickenson GMC, Inc. DI 5-0951

WASHINGTON

Seattle Fageol Motors, Inc. MA 2-4600

CANADA

Edmonton, Alta. Mills Motors, Ltd. GA 4-8017

Spokane Inland Diesel & Mach. Co. KE 5-2434

WISCONSIN—Milwaukee

August Schmid Co. BR 1-4633

PUERTO RICO

Bayamon Domingo E. Luisa 48

San Juan Domingo E. Luisa

Dominican Republic "Call Info."

Vancouver, B.C. Custom Trucks, Ltd. AL 4477

Winnipeg, Man. Borden Motors, Ltd. 93-4447

Toronto, Ont. Divco Ontario Sales WA 1-1171

Montreal, Que. Divco Eastern Canada, Ltd. WE 7-2391



ROUTE-DESIGNED for PROFIT-STOP

FREE—TWO NEW FACT-FOLDERS FROM DIVCO!

- Refrigeration brochure gives complete photo-story, specifications on refrigerated, insulated DIVCO wholesale and retail delivery trucks.
- Money-saving booklet on the most modern truck leasing plan in the industry.
- Send for both—today—or call your DIVCO Dealer.



DIVCO TRUCK DIVISION • 22000 Hoover Rd., Detroit 5, Michigan

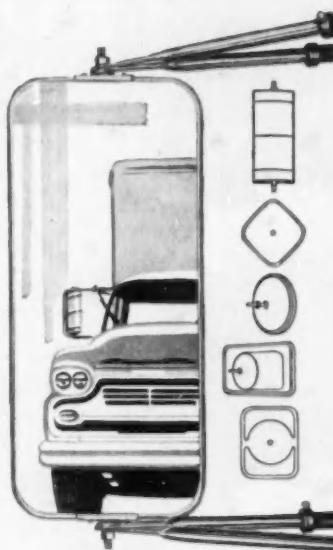
DIVCO - WAYNE CORPORATION

for Rugged
Durability
and all-round
Economy...

Use

Pathfinder

TRUCK MIRRORS and REPLACEMENT MIRROR HEADS



Choose from a complete selection in the

NEW Pathfinder

Truck Mirror Catalog, MC160

Write for your
copy today!

AUTO LAMP

Manufacturing Co.
2909 S. Indiana Ave.
Chicago 16, Illinois

More details? Circle 163 on reply card



JANUARY

9-13—Highway Research Board, National Academy of Sciences, Annual Meeting, Sheraton-Park Hotel, Washington, D. C.
9-13—International Congress & Exposition of Automotive Engineering, Society of Automotive Engineers, Cobo Hall, Detroit.
19-21—New Mexico Motor Carriers Assn., Annual Meeting, Albuquerque, N. M.
25-26—American Trucking Assn. Executive Committee Meeting, ATA Building, Washington, D. C.
28-Feb. 1—National Automobile Dealers Assn., Annual Meeting, San Francisco, Cal.
29-Feb 1—California Trucking Assn., Annual Convention, Hotel del Coronado, Coronado, Cal.
29-Feb. 1—Truck-Trailer Manufacturers Assn., Annual Convention, Hollywood Beach Hotel, Hollywood Fla.

FEBRUARY

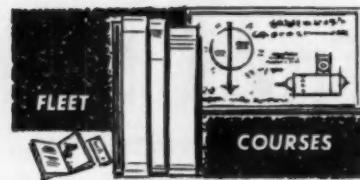
2-3—Private Truck Council of America, Annual Convention, Sheraton Hotel, Dallas, Texas.
12-18—American Trucking Assns. Industrial Relations Committee Meeting, Americana Hotel, Miami Beach, Fla.
16-19—International Automotive Service Industries, Annual Show, Los Angeles, Cal.
19-25—American Trucking Assn. Industrial Relations Committee Meeting, Americana Hotel, Miami Beach, Fla.
22-24—Materials Handling Institute, Pacific Coast Show, Cow Palace, San Francisco, Cal.

MARCH

5-8—American Road Builders Assn., Annual Convention and Materials & Services Exhibit, Atlantic City, N. J.
22-24—Assn. of Highway Officials (North Atlantic States), Annual Meeting, Hotel Traymore, Atlantic City, N. J.

APRIL

9-12—Western Highway Institute, Annual Membership Meeting, Arizona-Biltmore Hotel, Phoenix, Ariz.
11-14—Middle Atlantic Regional Automotive Show, Exhibition Hall, Philadelphia.
13-15—National Truck, Trailer & Equipment Show, Automotive Council of Los Angeles, Great Western Exhibit Center, Los Angeles, Cal.
21-22—Pennsylvania Motor Truck Assn., Combined General Membership & Board Meeting, Bellevue-Stratford Hotel, Philadelphia.



For addresses of sponsoring colleges, see page 308 of the November issue

DRIVER TRAINING

North Carolina State College (4-week courses)—Jan. 2-27; Jan. 30-Feb. 24; Feb. 27-Mar. 24; Mar. 27-Apr. 21; Apr. 24-May 19; May 22-June 16; June 26-July 21; July 31-Aug. 25; Sept. 4-29; Oct. 2-27; Oct. 30-Nov. 24; Nov 27-Dec. 22.

FLEET SUPERVISOR

University of Alabama—Jan. 23-27.
University of Oklahoma—March
University of California, Los Angeles (conference)—Mar. 6-7.
University of California, Richmond (conference)—Mar. 16-17.
University of Maryland—Apr. 10-14.
University of Washington—May 1-5.
Northeastern University—May 8-12.
Florida State Dept. of Education, Miami—May 15-19.
Northwestern University—June 12-16.
Penn State University—Sept. 11-15.
Ontario Safety League (Toronto)—Sept. 18-22.

FLEET MAINTENANCE

University of California, Los Angeles (conference)—Mar. 8-10.
University of California, Richmond (conference)—Mar. 13-15.
University of Washington—Mar. 20-22.
Ontario Safety League (Toronto)—Mar. 20-24.
North Carolina State College—Apr. 10-14.
Penn State University—Apr. 24-28.

DRIVER TRAINER

Purdue University—Feb. 17-21.
Ontario Safety League (Toronto)—Apr. 24-28.
Penn State University—Oct. 2-6.

TERMINAL MANAGEMENT

Ontario Safety League (Toronto)—Jan. 23-27.
Purdue University—Feb. 21-23.
Penn State University—Apr. 10-14.

FLEET OPERATION

Syracuse University—Feb. 16-Apr. 26.

TRANSPORT MANAGEMENT

Purdue University—May 16-18.

ACCIDENT INVESTIGATION

Northwestern University—Mar. 31-Oct. 23-Nov. 10.

LP GAS TRANSPORT

Purdue University—June 21-22.



Are Your Engines Plagued by Failures Like This?

**Eaton Engineers Can Help
You Solve This Problem**

The photographs above illustrate a typical fatigue-type failure caused by overstressing, in which fracture starts at the surface and, with repeated high stress, progresses to final break.

If you are an engine manufacturer and are having valve gear problems, Eaton engineers will be glad to consult with you and recommend procedures to help solve them. Or if you are designing new engines, perhaps our past valve experience can be valuable to you. Write, wire, or phone — there's no obligation.



**Eaton Technical Reports
are Available to Manufacturers**

Eaton valve engineers will be glad to make a thorough study for you and furnish a complete technical report.

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Texas fleet tests with TYREX® Rayon Cord

SHATTER A

TIRES WITH NYLON CORD
AFTER 100,000 MILES—
READY FOR RECAPPING

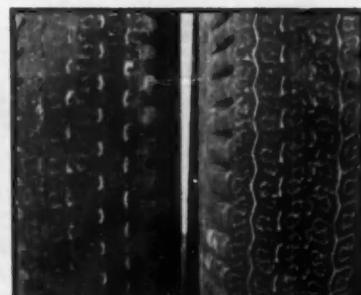


TIRE MYTH!

At the 1960 A.T.A. Convention, thousands of the nation's leading Fleet Owners examined the results of a startling showdown tire test . . . a test made under actual operating conditions on the trucks of the Ray Smith Associated Companies of Dallas, Texas! They saw actual proof that tires made with TYREX tire cord mean less downtime, more mileage, more profits!

Tires of TYREX tire cord were tested against those of nylon construction to determine comparative performance characteristics. The Ray Smith Associated Companies has 383 tractors, 505 trailers. Test tires are 1000/20 standard production tires—32 with TYREX cord—32 with Nylon cord—all mounted on the drive wheels. The four you see (left) are the first to reach 100,000 miles and the difference in treadwear is visible to the eye. As the tests continue, the results should prove even more startling. More facts to add to the mounting evidence of the superiority of tires made with TYREX cord—tires that give more mileage—tires that keep more of their strength as tire heat soars—tires that run cooler, "grow" less, have less groove-cracking, retread easier. No wonder more and more profit-conscious owners are specifying tires made with TYREX tire cord.

**TIRES WITH TYREX CORD
AFTER 100,000 MILES—
STILL 51.4% OF ORIGINAL
TREAD DEPTH LEFT!**



Test fleet includes 383 tractors, 505 trailers. They haul cement throughout Texas. Roads are hot, loads heavy—72,000 pounds gross weight or 4,000 lbs. per tire.

A "road's-eye" view of 2 of the 64 tires. Both are standard production 1000/20 tires, both have gone 100,000 miles—but compare mileage remaining on nylon tire (left) with TYREX cord (right).

**TYREX[®] rayon
TIRE CORD**

For more facts on test, write TYREX Inc., Empire State Bldg., New York 1, N. Y. TYREX (Reg. U. S. Pat. Off.) is a collective trademark of TYREX Inc. for tire yarn and cord. TYREX tire yarn and cord is also produced and available in Canada.

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that's
designed and built
to meet
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ICC needs more effective organization, studies say

Interstate Commerce Commissioners have two new study reports to ponder. Both tell what's wrong with the ICC. Both will be used to solve the problems. The "Report on Commission's Organization and Internal Procedure" sums-up a study conducted by an 18-man committee appointed by the Commission. Committee members include motor carrier lawyers and other ICC practitioners. The "Organization and Procedures Survey" was prepared by management consultants at the direction of the Bureau of the Budget. Both reports call for reorganization for greater efficiency. Basic goal: To leave Commissioners free to concentrate on their decision-making functions instead of bogging-down in routine chores.

Better maintenance shows up in ICC road checks

"A substantial improvement in the maintenance of equipment by (ICC regulated) motor carriers and some improvement by private carriers" was cited by the ICC in a recent comparison of May 1960 and May 1959 road-check findings. "Out of service" citations to authorized carrier vehicles dropped from 8.7 per cent of vehicles inspected to 7.4 per cent. For private carriers the drop was from 12.2 per cent to 9.2 per cent. By contrast, "exempt" carriers' vehicles put out of service increased from 12.7 per cent in 1959 to 13.6 per cent in 1960.

Brakes and lights lead vehicle-defect list

Road-check data produced a list of vehicle defects detected by ICC inspectors. The list, of course, includes many items which were not of themselves sufficient to put a unit "Out of Service." It includes defects noted in checks of 10,693 power-units and 8780 trailers. Power-units had 5743 brake defects. Trailers showed 5637 faults in lighting equipment and wiring. Power-unit lighting equipment accounted for another 4259 defects. There were 2788 faults found in trailer brake equipment. Bad brake hose was the chief brake item on both power-units and trailers. Faulty stop lights were the main defect in power-unit lights. Reflectors were the main item on trailers. Other leading defects included power-unit tail lamps (1498), side marker lights on trailers (1194), trailer clearance lights (1059) and power-unit brake warning items (1032).

Kennedy victory won't mean drastic changes

Sweeping—but probably not drastic—changes can be expected from the incoming Democratic Administration. President-elect Kennedy has an ambitious program planned, but the continued coalition of Southern Democrats and Republicans in Congress may scale it down. "Reform"

in the tax structure is certain. The "temporary" 1-cent gasoline tax may have to be extended. Outlook for the highway program is that unless some way can be found to ease the financing pinch (and this seems unlikely) Kennedy will permit the program to be stretched-out rather than add still more user taxes. Highways will come up for Congressional discussion early in the next session. Upcoming reports from Bureau of Public Roads' "Who Pays, How Much" studies may cause fireworks.

Highway spending still exceeds income

Balance of \$89,466,000 in the Highway Trust Fund was reported by Bureau of Public Roads for the quarter ended September 30. The Fund had total income of \$803,875,000 for the quarter. Of this, \$657,918,000 came from motor-fuel taxes. Total disbursements came to \$838,630,000. That means outgo exceeded income for the quarter by \$27,755,000.

AASHO Road Test reaches major goal

One million truck axle loads have been applied to test sections at the AASHO Road Test site at Ottawa, Ill. Regular test procedure was scheduled to be completed Nov. 30. Effect of special military vehicles on the test pavement will be checked next spring. Bridge spans will undergo special tests this winter. Final reports on the test are due next fall. There'll be a progress report at the Highway Research Board Meeting in January, however.

New York City drops tax on trailers and semi's

Trailers and semi-trailers are now exempt from New York City's truck tax. Exemption is retroactive to July 31, 1960. If you paid the tax on this equipment you can get a refund from the Bureau of Excise Taxes, Office of the Comptroller, 120 W. 32nd St., New York 1.

Riss award sets precedent for rate-cut cases

Rate cuts made in conspiracy to drive a competitor out of business are violations of Federal antitrust laws. That's one conclusion to be drawn from the judgment, handed down November 5, in the Riss & Co. suit against rail interests and a public relations firm. A jury in the Washington, D. C., federal district court awarded damages of \$75,000 plus court costs and attorney fees against the defendants. The damage award was tripled under provisions of antitrust law. In the suit, Riss charged that the defendants conspired in an attempt to turn public opinion against it and fought legislation favorable to it. Industry spokesmen hailed the ruling as a "smashing victory."

Carrier accident reports may be used as evidence

New order by the Interstate Commerce Commission, effective Dec. 15, makes motor carrier accident reports available to the Commission and to United States attorneys for use as evidence. While the reports are

still banned as evidence in damage suits, the Commission specified that its action was intended to permit a review of carriers' safety records as part of other proceedings, including applications for new rights.

Tonnage up to October goes above last year . . . 0.6 per cent

In thousands of units, except bus sales are in actual numbers	New Truck Registrations		Truck Factory Sales—Domestic		Truck Trailer Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires			
	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months
	1960	78.1	728.6	68.0	760.2	4.1	81.2	148	2944	810.8	7110.8	273.4
1960	78.0	728.8	64.6	758.1	6.5	54.7	134	1582	868.8	7387.8	421.7	3140.1
1960	78.0	728.8	64.6	758.1	6.5	54.7	134	1582	868.8	7387.8	421.7	3140.1

Truck and bus production	Truck tonnage				1960 Week Ending	% Change from Previous Week	% Change from a Year Ago			
	Weeks Ending		Year to Date							
	Nov. 12	Nov. 5	1960	1960						
Chevrolet	7,527	8,012	347,190	304,708						
G. M. C.	1,520	1,565	91,755	70,783	November 12	— 8.4	— 6.0			
Diamond T.	18	—	2,298	4,948	November 5	+ 0.9	+ 1.3			
Divo	—	—	3,256	3,316	October 29	— 1.6	— 4.1			
Dodge and Fargo	1,694	536	63,249	66,554	October 22	— 0.2	— 1.8			
Ford	6,003	2,751	285,233	296,532	October 18	— 3.7	— 1.4			
F. W. D.	13	14	708	934	October 8	— 1.6	+ 0.7			
International	1,882	2,307	109,621	128,183	October 1	+ 2.2	— 1.0			
Mack	273	270	13,219	15,328	September 24	— 0.5	— 2.1			
Studebaker	216	393	11,589	10,659	September 17	+ 18.1	— 1.1			
White	263	185	14,068	17,595	September 10	+ 14.8	+ 0.4			
Willys	1,778	1,932	111,669	98,614	September 3	+ 6.8	+ 0.4			
Other Trucks	80	70	3,855	3,381	August 27	+ 1.6	— 2.9			
Total—Trucks	20,978	18,035	1,057,780	1,021,538	August 20	+ 1.4	— 3.0			
Buses	65	55	3,815	2,172	August 13	— 1.3	— 3.8			
Total—Trucks and Buses	21,043	18,090	1,061,405	1,023,708	August 6	— 0.3	— 1.7			

Sources: Truck and bus data—Automobile Manufacturers Assn. Tonnage—American Trucking Assns. Registrations—R. L. Polk & Co. Trailers—Dept. of Commerce. Tires—Rubber Manufacturers Assn.

Little change in '61 fleet volume, says CCJ's editor

Volume of truck transportation during 1961 will be substantially the same as this year, predicts CCJ's Editor Bart Rawson. He also sees a slight downward dip in truck and car sales. Downward trend in general business will be countered by other factors at work (trend to suburbs, growth of trucks' share in total transportation, need for new equipment purchases to overcome obsolescence) in the industry.

New jobs for some key people

Among announcements of new appointments and elections in the past month, here are a few highlights: Robert S. McNamara was elected president of Ford Motor Co. Henry Ford II moves up to chairman of the board and chief executive officer. It's the first time someone not named Ford has become president of the company. . . . Ellis L. Armstrong resigned his post as Commissioner of the Bureau of Public Roads to become president of the Better Highways Information Foundation. BHIF is a private non-profit organization devoted to a national highway education campaign. . . . Ralph M. Buzard, vice president, Motor Truck Division, International Harvester Co., has been elected chairman of the Auto-



A QUICK LOOK AT WHAT'S COMING TO HELP WITH YOUR ADVANCE FLEET PLANNING

mobile Manufacturers Assn.'s Motor Truck Committee. He succeeds Earl J. Bush, recently-retired chairman of the board of Diamond T Motor Truck Co. Bush has been committee chairman since 1947. . . . Laurence H. Larsen, Superior Coach Corp., Lima, Ohio, was elected president of the Truck Body and Equipment Assn. at TBEA's annual meeting.

SAE Congress and Highway Research Board meetings coincide

Two major meetings on identical dates may pose problems for your travel schedule in January. The dates: Jan. 9-13. The meetings: SAE's International Congress and Exposition of Automotive Engineering in Detroit (see page 102, this issue), and the Highway Research Board's 40th annual meeting at Washington, D. C.'s Sheraton-Park Hotel. The HRB meeting will include a progress report on the AASHO Road Test. Later in January, Truck-Trailer Manufacturers Assn. holds its 20th annual convention from the 29th to Feb. 1 at Hollywood Beach Hotel, Hollywood, Fla. And safety directors should note the Jan. 31 deadline for nominations for ATA's Safety Director Award.

N.J. Turnpike lists vehicle and driver violations

Defects in vehicle lighting are the chief item on a list of violations noted by the New Jersey Turnpike Authority in its current truck safety campaign. The list covers violations in August and September. It was released to the New Jersey Motor Truck Assn. by the Turnpike Authority. Total violations for the two months: 584. The breakdown: Lights (149), Unsafe vehicle (106), Inspection (80), Overloading (35), Careless driving (34), Speeding (27), No registration in drivers' possession (26), Size limitations (24), Unsafe movement (21), No driver's license (17), Following too close (15), Illegal backing (13), Other (37). More specific information on the violations may be supplied in future reports.

IN THIS ISSUE . . .

. . . Don Buck, as only he can, calls for using a positive approach and clear instructions instead of "Don't do . . ." safety rules (page 88) . . . Three fleets prove the value of effective radio communication in fleet control of intercity trucks (page 91), transit mixers (page 93) and customer service trucks (page 94) . . . Fleetmen talk about vehicle selection as shown by highlights from the SAE National Transportation Meeting (page 97).

. . . You won't want to miss the special report and exclusive analysis of the Budd Co.-ATA Foundation truck maintenance cost study. It's in a special section following page 106. Last but not least, CCJ's Annual Index is on page 103.



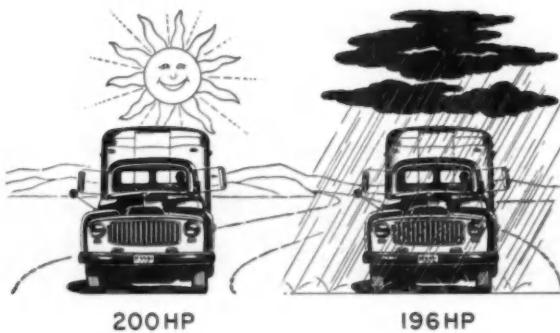
LUBE LOGIC

MONEY-SAVING IDEAS FOR AMERICA'S FLEETS

HEIGHT, HUMIDITY AND HORSEPOWER

Physicists explain why hills seem steeper when it's damp

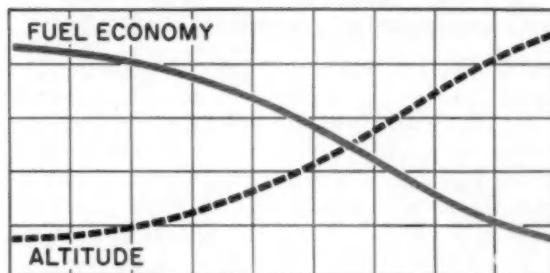
Mechanics who are usually the best of friends sometimes fly at each other when it comes to deciding what weather does to engines. For instance! Is it true that engines run better in humid weather? Why does a truck bowl through plains states without trouble and gasp and strangle on high-altitude roads? Do cars use more gas when it's raining?



Good questions all, and here are some answers that engineers and physicists have turned up.

An engine rated at 200 horsepower will deliver 200 horsepower at sea level, in dry air, at a temperature of 60°F, SAE's "standard weather".

But at 100% humidity, the same engine will deliver only 196 hp, simply because the air that comes into the carburetor contains water vapor that crowds out some of the oxygen. However air moisture does decrease knocking tendency, thus contributing to engine smoothness and an overall impression of greater power.



Generally speaking, engine horsepower follows the barometer—up when the pressure is high, down when the pressure is low. The reason for this is that a climbing barometer indicates heavier air, so that, on a fine day, an engine gets more air to convert the fuel into power. At high altitudes engine power decreases because the air weight is lower.

Temperature is influential, too. A twenty degree drop in temperature will boost a 200-hp engine up to 205 hp. But, unlike power, economy drops with temperature, one of the reasons why fuel economy is better in summer than in winter.



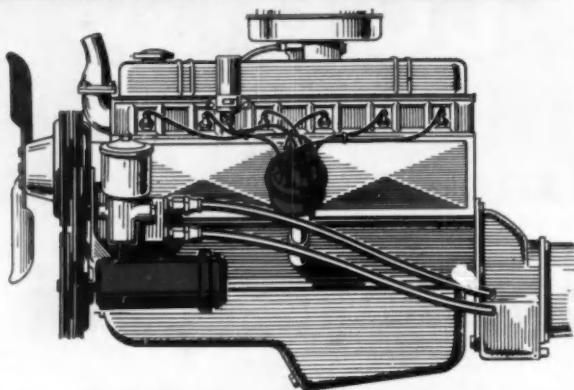
ALSO IN THIS ISSUE:

Trailin' the Mail With AL

4 clues for cutting cost-per-mile

HOW TO TEST ENGINE COMPRESSION PRESSURE

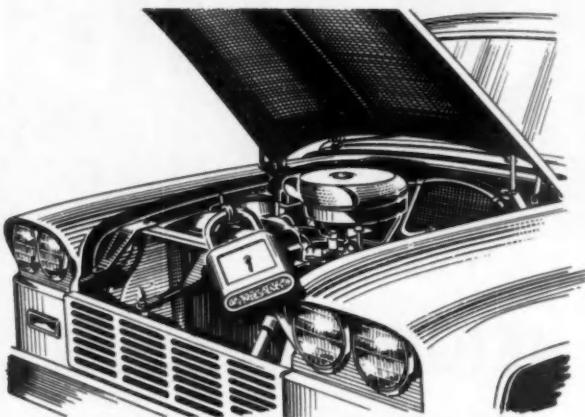
LUBE LOGIC



LEST WE FORGET: GENERATORS AND DISTRIBUTORS NEED LUBRICATION, TOO

We'd be willing to bet that top honors for lube-points-most-likely-to-be-neglected go to the generator and distributor. Many symptoms that *seem* to indicate ignition problems can actually be traced to a sluggish distributor that didn't get lubricated in time. And a generator that's been neglected will start squealing and maybe seize and have to be replaced. Moral: generators and distributors will go a long way on a little lubrication, but make a point of checking them not later than every 4,000 miles.

FOUR CLUES



POSITIVELY PERMANENT ANTIFREEZE?

We've been getting a lot of questions lately about switching to the new chemical positively permanent type antifreeze, particularly from fleet owners who operate their equipment in areas where high-mineral content water promotes early cooling system clogging. The good word from Texaco's Beacon research men is that you can get the same year-round protection—for less money—by using Texaco PT antifreeze and distilled water. Check with your local TAE before you stir up a batch on your own. He'll be glad to tell you what proportions of PT and distilled water are correct for your area.



DEAR AL,

I've got a problem with a leaky radiator that nothing seems to solve. Engine heads and blocks are OK, no water shows up in the oil, and no excessive moisture in the exhaust. I checked the radiator, and it held nine pounds pressure for three minutes without any loss. I managed to relieve the problem a little by switching from a pressure-cap to a non-pressure cap, which cut water loss from a quart every 200 miles to a quart every 1000 miles, but that doesn't solve the problem, and it's still a nuisance.

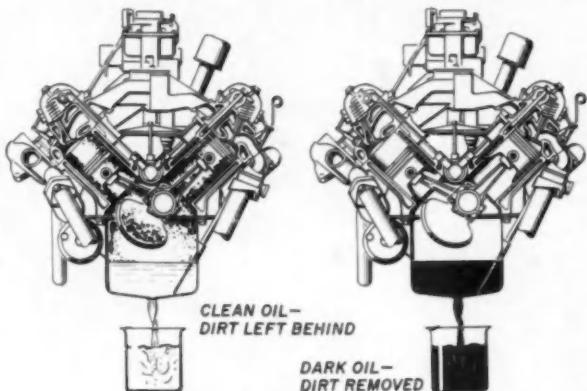
R.S., Wilbur, Wash.

I know from experience how tough it can be to find a cooling system leak. The hole you're looking for is probably no bigger than a pin, and it's most probably in the radiator core or the car heater core. It'll be easier to locate if you fill up the cooling system and add some red or blue water-soluble dye, since the color will remain at the leak even if the water should evaporate before you spot it. When you're through you simply wash off the residual dye with water. Pres-

surize the cooling system with a radiator cap tester or a hand tire pump to about 15 pounds pressure (four or five strokes of the tire pump). Don't, under any circumstances, use the air hose for this purpose unless you're really disgusted and want to blow up the whole works. When you examine the radiator, pay particular attention to the points where the core meets the shell at the sides and the tanks at top and bottom. The leak will be just above each dye stain you find.

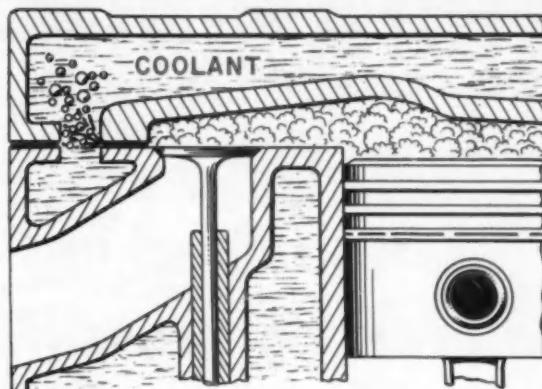
To fix the leak, drain the cooling system and plug each leaking cell thoroughly with a commercial plastic aluminum or "heatless solder". Make sure the plug covers the edges of the cell. Careful plugging of individual cells won't materially cut down on the cooling efficiency of the radiator; in fact, you may find some cells that were plugged with solder by the manufacturer. Once your plug-material has hardened you can refill your radiator and, with any luck at all, you're on your way.

FOR CUTTING COST-PER-MILE



DARK ENGINE OIL... SIGN OF A HARD WORKER

Here's a motor-oil misconception that's still common enough to need discussion. Some folks think that the better an engine oil is, the more likely it is to come out as clean as it went in. The truth of the matter is just the other way around. A good detergent-dispersant oil holds onto dirt like an old friend. It keeps dust, soot and carbon in suspension, and carries it out of the engine when you drain the oil. Oil that looks clean when you drain it from the crank-case is a sure sign that these contaminants are still inside the engine. Moral: oil that darkens with use is really doing its job.



CHECK CYLINDER HEAD JOINTS FOR CHRONIC OVERHEATING

If you've got a truck that continues to overheat even though you've checked out all the likely causes (slipping fan belt, leaks in pressure cap or radiator core) take a close look for a loose cylinder head joint. An opening here would be too small for coolant to leak into the engine, but plenty big enough to admit high-pressure exhaust gas into the coolant. Exhaust gas would push out a lot of coolant through the overflow pipe, and also contaminate whatever water remains. This contaminated water might become acid enough to do some real damage. A crack in the head or block would have the same effect.

with AL

★ Shoot in your puzzlers to "Trailin' the Mail with Al," at Texaco's Fleet Sales Division, 135 East 42nd Street, New York 17, N. Y. There's a real fine group at the Division — ready to serve every "on-wheels" fleet from coast to coast.

DEAR AL,

We have an 8-cylinder pickup that keeps burning up the spark plug on one cylinder. It's the same cylinder each time. New points and condenser didn't help. What do we do now?

W.M.D., Dillonvale, Ohio

It's most unusual to have one plug burn repeatedly when nothing seems to happen to the other plugs. Indications are that there's something wrong with the cylinder, not with the ignition system, which explains why you didn't get any improvement with new points and condenser. First off, make sure you're using the right plug—same stock number and heat range on all eight cylinders. Then check out some of these causes for one-plug burning:

1. Check the intake manifold to see if it's loose or warped, or if the gasket is leaky. Any one of these would let outside air into the cylinder, make the gasoline mixture too lean in that one cylinder. If this seems to be the problem, check the leak by idling the engine

and putting a drop or two of gasoline at the point where the intake manifold meets the cylinder head. If the engine speeds up, it's clear that you're getting too much air and not enough gas in the cylinder.

2. Run a tap through spark plug port threads to clear out possible carbon accumulation.

3. Make sure the plug is in tight.

4. Check for old gaskets in the spark plug port. If there's more than one, replace them with a single new one.

5. Flush the engine thoroughly. Cylinder head cooling passages around the spark plug base may be clogged with rust, mud or hard-water calcium deposits. Flushing might remove mud and loosen rust, but calcium deposits require careful treatment with inhibited acid.

DEAR AL,

Every week I service three trucks that do most of their hauling over rough

roads at low speeds. Two of these trucks use EP 90 for differential lubrication, but the differentials run very hot. The third truck uses Texaco Thuban 90, and doesn't run as hot as the others. The trucker wants to know if he should switch to Thuban 90 on the other trucks.

S.R.T., Marathon, Texas

Trucks that are equipped with spiral bevel gears in the rear axle will perform very satisfactorily on a high-grade straight mineral oil like Thuban 90. But most trucks now use hypoid gear lubricants. If you put a straight mineral oil into one of these hypoid axles it would probably wreck the axle very quickly. Since you can't arbitrarily switch to straight mineral oil on the other trucks, double check to make sure they're getting the right viscosity for the climate and type of service they're in. I would expect your trucks to run pretty hot, which means that any differential lubricant would oxidize, and should be replaced regularly and frequently.

LUBE LOGIC

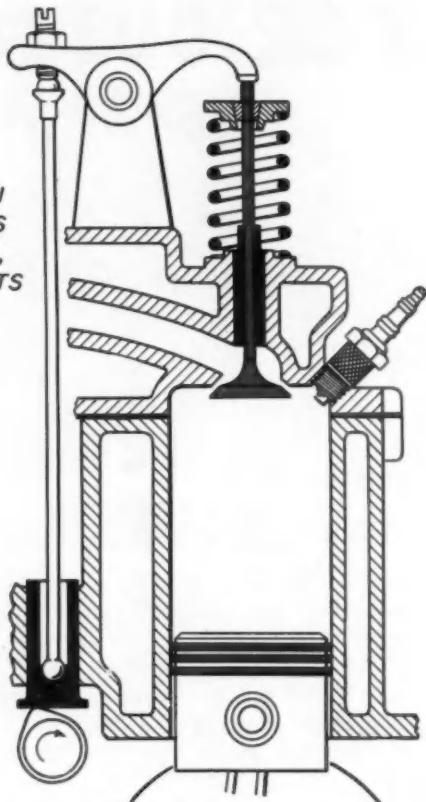
Short course on checking compression pressure

Tuning up an engine that has leaky valves, excessively worn rings or leaky cylinder-head gaskets is at best a short-term proposition even if you do manage to get it tuned up properly. And since the conditions we mentioned above eat up profits by cutting down performance, we'd like to show you how to find out if these conditions exist. Basic equipment is a pressure gauge, but there's a right way and a wrong way to use it. This is the way we like best.

1. Warm up the engine to operating temperature and remove the air cleaner. If the engine has mechanical valve lifters, valve lash should be adjusted to specifications before you go any further.
2. Block the automatic choke in the wide-open position so you get a full charge of air but no gasoline when you crank the engine.
3. Ground the primary wires of the coil so you don't get an unexpected charge through disconnected spark plug wires.
4. Disconnect all spark plug wires and remove the plugs.
5. Select the right size fitting for the gauge and screw the fitting into the spark plug port; attach the gauge.
6. Crank the engine with the starter; read and record the pressure.
7. Remove gauge from fitting, remove the fitting, and repeat the whole process with each cylinder.
8. Compare your readings with the values specified by the manufacturer.

Here are some of the symptoms your readings may show, and what the symptoms mean:

**COMPRESSION TEST REVEALS
WORN VALVES,
RINGS, GASKETS**

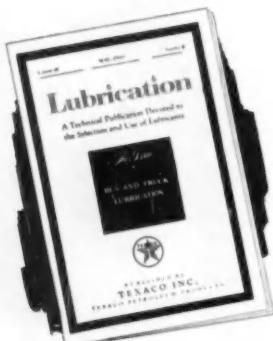


1. Low compression in two adjacent cylinders probably indicates that the cylinder head gasket is blown or leaking and losing pressure between the cylinders.

2. Low compression pressure in one cylinder is usually ring trouble or valve trouble. To find out which, pour a tablespoonful of SAE 50 oil into the cylinder through the spark plug port, and retest compression pressure. If the pressure comes up almost to the specified value, it means you're losing compression past a worn piston ring which the spoonful of oil has temporarily sealed. If compression reading doesn't change appreciably after you've added the oil, leakage past the valves is indicated, or, possibly, through the cylinder head gasket.

FREE-FROM TEXACO

THE LOWDOWN ON BUS AND TRUCK LUBRICATION



The May issue of Texaco's *Lubrication Magazine* gives latest and most efficient ways to lubricate and operate trucks and buses. You can get your free copy simply by writing to Texaco Inc., Fleet Sales Division, 135 East 42nd Street, New York 17, N.Y., Department CCJ-101.

TEXACO AUTOMOTIVE ENGINEERS



Every month we'll bring you the latest "doings" in servicing and lubricating your trucks. We'll also bring you "sleepers," little angles, easy to overlook, where big savings in time and money can be made. But month in, month out, your local Texaco Automotive Engineer is the best source for money-saving lubrication ideas. Don't forget that "Lubrication is a major factor in cost control." Texaco Inc., Fleet Sales Division, 135 East 42nd Street, New York 17, N.Y.

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TWO UNISTEEL all-aluminum SPACEMASTER VANS—operated by Biscayne Cartage Co.—at the Republic Carloading and Distributing Co.'s active Miami terminal.

"Far less maintenance is required with aluminum!" ...says Joe Woods

Leading firm specifies all-aluminum vans for greater payload . . . and long life

With a need for new truck equipment, Joe Woods of Biscayne Cartage specified Spacemaster "All-aluminum" bodies from **UNISTEEL BODY CO., DIVISION OF HERCULES GALION PRODUCTS, INC., GALION, OHIO.**

"With aluminum in the Miami area," Mr. Woods stated, "we have no corrosion problem; consequently, we can save a lot of money on maintenance." He also noted that, because of aluminum's lightweight strength and the Unisteel Spacemaster's extra width, more cargo space is provided . . . permitting more profitable payload.

Spacemaster units are available in lengths up to 28 ft with 96-in. width . . . providing 23 cu ft *more* usable space than that of most other vans (based on a 14-ft body). This means one free load every 28

trips! Clean "cabinet finish" interiors, dry-wall construction, extruded aluminum rub rails and a one-piece, rivetless aluminum roof round out this extraordinary unit.

"Cargo-engineered" to the user's exact specifications, the Spacemaster is available in standard or custom design with a wide choice of options, and available with corrugated or smooth panel, or exterior post design.

Write today for information on how aluminum truck bodies increase efficiency of your operations: Aluminum Company of America, 1770-M Alcoa Building, Pittsburgh 19, Pa.

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

HERE'S WHY Arkansas-Best Freight System, Inc. endorses UNISON-ACTION Seats

"more rugged"

says

HARRY B. FINK
Vice President and
Director of Maintenance



"more comfort"

says

E. E. BRANSTETTER
Over-the-Road Driver



"We have used Unison-Action seats for 18 months in our GMC DF 869 road tractors and have found them to be entirely satisfactory in every respect. The more important features are their rugged design, position variations and ease of maintenance. See the endorsement by James H. May, Supt. of Maintenance at the Healzer Cartage Co. which is under our management."

"The new Unison-Action seats that came in the last group of tractors the company purchased give the most comfortable ride of any seat that we have had to date. After 75,000 miles riding in one of these seats, I can recommend it highly to anyone purchasing new equipment or replacing seats in old equipment."

"less maintenance"

says **JAMES H. MAY**, Superintendent of Maintenance

"The 30 GMC DF 860 tractors that the Healzer Cartage Co. placed into service in November, 1959, were equipped with Unison-Action seats. The reception to this seat has been unanimous from the maintenance department's point of view. There has been no expense or maintenance required in the 2,214,000 total miles driven on our 30 trucks. The seat has been well accepted by our drivers also, and I can commend its performance highly."

We invite your inquiries

UNISON-ACTION SEAT DIVISION
AMERICAN METAL PRODUCTS COMPANY

5991 LINDSAY AMP DETROIT 4, MICHIGAN

the secret
is in the
patented saddle

the seat with the Floating Back

Specify
for any truck

high
heat
or
deep
freeze



Available in Shop-Size Cabinet Assortments
and in Standard Ten-Paks . . . included in
every EIS Wheel Cylinder Repair Kit . . . built
into every EIS Wheel Cylinder!

EIS AUTOMOTIVE CORP., Middletown, Conn.



Ask your EIS Distributor or write for catalogs



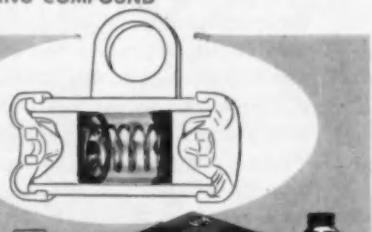
EIS

"E" Series HRC*
WHEEL CYLINDER
CUPS with Expanders
and Springs always
work better!

In high-heat conditions caused by smaller drums and faster stops . . . in cold-weather starts ($-40^{\circ}\text{F}.$), you'll find that EIS "E" Series "HRC" Wheel Cylinder Cups provide a positive, longer-lasting seal! And, between cups and cylinder wall, the Expanders and Springs provide the slight pressure needed at the point of contact.

EIS "E" Series Cups with Expanders and Springs are built into every EIS Wheel Cylinder . . . and there's no cost premium! Use them for repair and replacement on all cars! Use them in all your brake work . . . because they work better!

*HEAT-RESISTING COMPOUND



Improves mileage 6.8% with
STANDARD RED CROWN Gasoline
containing M₂P G



Checking facts for this article. Standard Oil's C. K. Olson (center) reviews cab mileage chart with Blue & White Cabs' president Wallace Oslund (left), and vice president Vernon Sherman. "RED CROWN with M₂P G is essential to the profitable operation of our cabs," says Oslund.

*By C. K. Olson
N. W. Region, Standard Oil Company*



Blue & White Cabs, Minneapolis, had a carburetor deposit problem, the result of idling and slow-speed driving. They cleaned up the problem, saved money on maintenance, and improved mileage 6.8% with Standard RED CROWN Gasoline containing M₂P G.

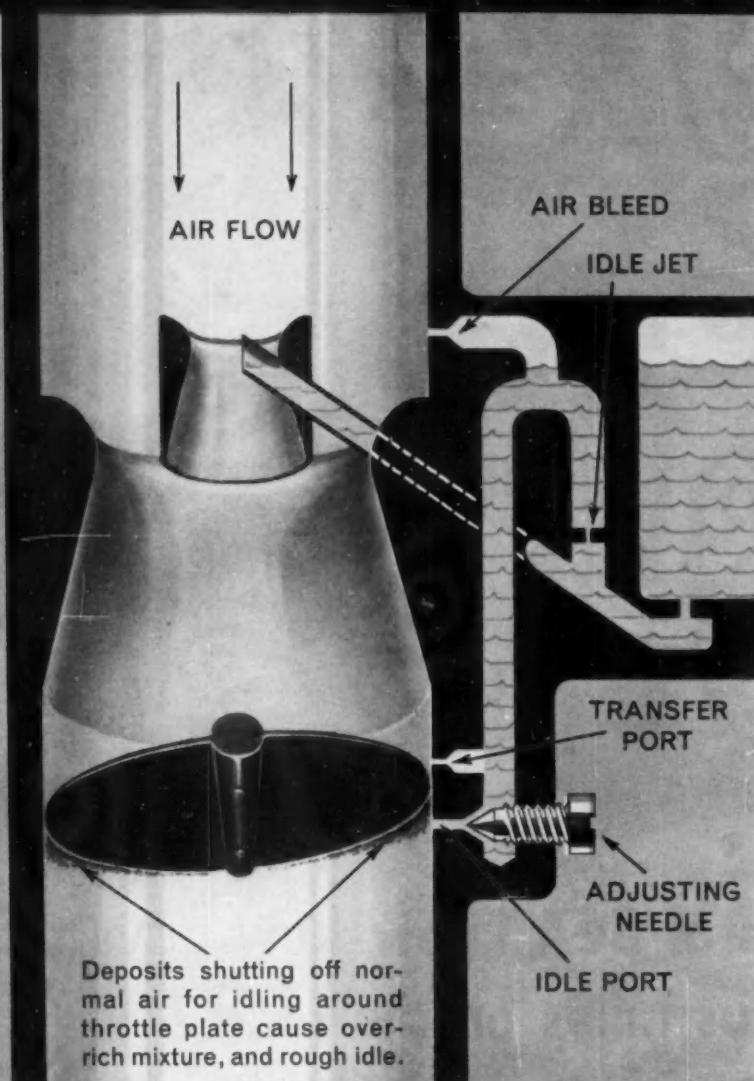
Sometime before Blue & White Cabs discussed their carburetor-deposit problem with us, research men at our laboratory had identified this problem and had developed an additive—M₂P G—to solve it. The work was checked out in two years of laboratory and field testing. The request from Blue & White Cabs presented us with the ideal opportunity to demonstrate the effectiveness of M₂P G. As a result of this work, M₂P G is now blended into all RED CROWN and GOLD CROWN Gasolines.

The problem: A carburetor's throttle plate is nearly closed when the engine operates at idle. Impurities

in the air, inhaled by the carburetor, form deposits on the carburetor throttle body wall near the point where air flows by the throttle plate. This deposit formation narrows or closes the space between the throttle plate and wall, restricting air flow. This results in rough idling or stalling and increased gasoline consumption.

At the time Blue & White Cabs asked for help, ten new cabs were being added to the fleet. Five of the new cabs were put on conventional gasoline. The other five, plus the rest of the fleet, were put on Standard RED CROWN with M₂P G.

What happened: The cabs serviced with RED CROWN/M₂P G showed an improvement in mileage of 6.8% over the other cabs. Some cabs showed as much as 13% improvement in mileage. The detergent effect of M₂P G on the deposits which form on the walls of the throttle body near the



Impurities from the air form deposits as indicated in this cross-section diagram of a typical carburetor. Although they're only half the thickness of a piece of bond paper, these deposits close the space where air flows around the throttle plate. Detergent action of M.P. G in RED CROWN removes these deposits.

throttle plate removes these deposits. This allows the carburetor to function as it should, permitting smooth, low-speed operation and idling without stalling the engine.

Blue & White formerly dismantled carburetors every 10,000 miles to clean up deposits. Dismantling is now needed only every 40,000 miles. Carburetor adjustments were formerly needed on a weekly basis. Now none are needed between the 40,000-mile overhauls.

Each carburetor overhaul and tune-up costs Blue & White \$6 to \$7.00. Three of these are now eliminated, saving them annually an average of \$35.00 per unit or more than \$2,800 on their 81-unit fleet. More than 2,500,000 miles were logged by the fleet during the six-month test period. Based on a 6.8% improvement in mileage, the firm gained an additional 150,000 miles of service from their cabs, or

the equivalent of more than a year's mileage for another two cabs.

Would you like more facts about this test and information about how your fleet would perform using Standard RED CROWN Gasoline? Call your nearest Standard Oil office anywhere in the 15 Midwest or Rocky Mountain states. Or write **Standard Oil Company (Ind.), 910 South Michigan Avenue, Chicago 60, Illinois.**



*You expect more from Standard
and you get it!*

Better products, *faster*, from your Bearing Distributor:



Over 50 years of BCA know-how pays off in bonus miles on the road



BCA's long-time experience gives you bearings
that insure long, trouble-free service!

Maintenance cost is a vital factor in any fleet operation. Rigs must keep rolling to bring profits. That's why it is so important to use only the finest bearings for all replacements. And BCA has been the first choice of skilled mechanics for all ball bearing replacements.

Perfect quality control of BCA starts in the steel, is followed through in design and manufacturing. An important *plus* value is the high availability of BCA bearings. If you want to be sure of every service job, don't take chances with worn or pitted bearings—replace with new BCA. You save costly delays and stretch overhaul periods substantially when you insist on BCA ball bearings.

Get all the facts on how you can save time and money the BCA way. Call your BCA jobber today.

BCA BALL BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN





B&D patented
Vibro-Centric action
speeds grinding!

B&D exclusive Gruv-top
self-centering pilot assures
most accurate alignment!

In the time it takes to read this headline, you can grind a valve seat—perfectly— with a Black & Decker Vibro-Centric System!

Fast and right—that's the kind of valve seat grinding you get with the Black & Decker Vibro-Centric System! And it's foolproof, too! You get a mirror-finish and correct alignment quickly, easily . . . every time!

You can thank two patented, exclusive Black & Decker features for this performance. One is the special Vibro-Centric action that lifts the grinding stone from the seat once every revolution (reduces stone loading and wear, speeds grinding). And the exclusive self-centering Gruv-top pilot compensates for worn valve guides, assures accuracy. See the Black & Decker Vibro-Centric System in your own shop. At most B&D jobbers for low monthly payments. For sales or service look in the Yellow Pages of your telephone book under



TOOLS
ELECTRIC

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Black & Decker®
WORLD'S LARGEST MAKER OF POWER TOOLS

THE BLACK & DECKER MFG. CO., Dept. 5412
Towson 4, Maryland. (In Canada: Brockville, Ont.)

Please arrange for a demonstration of
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Name Title

Company

Address

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Drills



Sanders



Polishers



Impact
Wrenches



with frozen food haulers

**BREAKDOWNS
AREN'T ON THE
TIMETABLE**





J. M. Blythe (right) and son Jim check out some of their Mack tractors. Good equipment and good operating practice go hand in hand at this smooth running operation.

"Dependability is the primary factor in our truck operation," says J. M. Blythe, president of J. M. Blythe Motor Lines, Sanford, Fla. "In our business breakdowns aren't on the timetable."

Blythe's Mack-drawn deep-freeze trailers are a familiar sight from Key West, Florida, to Halifax, Nova Scotia, and Fort William, Ontario, making on-time deliveries of frozen and chilled citrus products, seafood, poultry, vegetables, meat—even baked goods. Frozen food truckers are time and temperature conscious from the time they start rolling till the final delivery is made. The efficiency and reliability of Mack trucks make them outstanding favorites wherever food deliveries rest on truck performance.

"We place a high value on dependability, but we can't overlook the value of low operating costs," says Mr. Blythe. "We put 5 million miles a year on our

55 Mack trucks, and our Mack-built Thermodyne® diesels are giving us the greatest return yet on our operating dollar."

There are Macks that can make a big contribution to your operation, too. COE or conventional . . . gasoline or diesel. Your nearby Mack branch or distributor is an expert at helping put more profit in truck operations. For full details, call him soon. Mack Trucks, Inc., Plainfield, New Jersey. Mack Trucks of Canada, Ltd., Toronto, Ontario.

7926

MACK
FIRST NAME FOR
TRUCKS

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Put a stop to tapping screw hunting expeditions:

LAMSON SM-2 SCREW SELLER



BRIGHT IDEA: put Lamson Screw Sellers at every work station in your body shop. In less than a year, you'll eliminate **hundreds** of time-wasting hunting expeditions. And just *one* Screw Seller in the Parts Department will make a small but pleasing improvement in over-the-counter service.

The Lamson SM-2 Screw Seller consists of 1900 tapping screws in the 20 most frequently used sizes. All screws are *Silverline* plated. Part re-order numbers, sizes and prices are on the inside of the lid. Each compartment is large enough to hold the contents of a full standard carton—and that's the way you can order re-fills from your Lamson Distributor.

Why not call your Lamson Distributor first chance you get, and place a verbal order for Lamson SM-2 Screw Sellers? If you don't know who he is, write us direct.

THE CABINET'S FREE

Retail value of contents*	\$31.00
Dealer price—complete	16.75
Dealer profit on contents	\$14.25

*Based on prices shown on chart inside lid of cabinet.

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO

Plants in Cleveland and Kent, Ohio • Chicago and Birmingham



HERE'S THE ONLY "TOOL" YOU NEED FOR ACCURATE VOLTAGE SETTING!

New for fleet owners—Delco-Remy External Adjustment Voltage Regulator takes only seconds to adjust, requires no electrical checking equipment!

There can be *no* mistakes with this new voltage regulator from Delco-Remy. The cover stays on, voltage limits are clear and definite, and it's impossible to make an accidental out-of-limit setting. Adjustments are quick and easy, when switching from city to country driving, for instance, and *no voltmeter readings are required!* ■ The result? Longer battery life. Protection against electrical equipment damage. *Avoidance* of operational and seasonal over- or undercharging. ■ In addition, this new regulator has Double Contact design which maintains precise control of generator voltage at *all* speeds. Lasts longer, too. Almost *twice* the life of an average regulator, with more economical and dependable service all the way. ■ Your United Motors Service Delco-Remy parts supplier carries this new External Adjustment Voltage Regulator and a complete line of ignition and electrical parts for your fleet. He also provides technical literature and aid, application data, and special training for your mechanics on the job or at a nearby GM Training Center. Whether you need a part, a maintenance program or technical advice, your Delco-Remy supplier is the man to see.



Delco-Remy
electrical systems



RELIABLE PRODUCTS FROM GENERAL MOTORS... DISTRIBUTED NATIONALLY THROUGH

COMMERCIAL CAR JOURNAL, December, 1960

● More details? Circle 108 on reply card inside back cover



Geared by FULLER ... F. G. Campbell, President of Campbell "66" Express, stands beside one of the company's 85 Mack B61T Tractors, equipped with a Fuller R-96 10-speed ROADRANGER Transmission.

**"We specify Fuller RoadRangers on all our road tractors,
including our 85 MACKS"**

In 1959, the Fuller-geared highway tractors of Campbell "66" Express traveled 22 million miles and handled one billion pounds of freight. The Springfield, Mo., carrier has standardized on Fuller Transmissions for a number of years, and has specified R-46 and R-96 ROADRANGERS on purchases of new highway equipment throughout the past three years.

Superintendent of Maintenance W. T. Royston says, "Our records show that ROADRANGERS give long life with less road failures than other transmissions. They average between 200,000 and 300,000 miles without an overhaul. The close, even steps between ratios permit drivers to maintain more constant and better speeds."

President F. G. Campbell adds,

"We've found that we increase fuel mileage with the ROADRANGERS. They require less maintenance and eliminate trouble-making delays on the road. At present, we'll continue to specify R-46 and R-96 ROADRANGERS on our new road tractors."

Ask your truck dealer about the Fuller which is designed to put more profit in *your* operation.

FULLER

TRANSMISSION DIVISION
MANUFACTURING COMPANY
KALAMAZOO, MICHIGAN
Subsidiary EATON Manufacturing Company



Unit Drop Forge Div., Milwaukee 1, Wis. • Shuler Axle Co., Louisville, Ky. (Subsidiary) • Sales & Service, All Products, West. Dist. Branch, Oakland 6, Cal. and Southwest Dist. Office, Tulsa 3, Okla.
Automotive Products Company, Ltd., Automotive House, Great Portland Street, London W.1, England, European Representative



"TURNPIKES ARE MURDER ON ENGINE BEARINGS"

There's a big difference in engine bearings—a difference that can save you costly delays and repairs. Michigan Engine Bearings are engineered with *Turnpike Toughness*: the durability to stand up under the most gruelling, long, high-speed hauls.

All materials for Michigan Bearings are specially chosen and carefully protecto-treated for maximum fatigue strength, high thermal conductivity, corrosion and oxidation resistance, superior embeddability and surface action. They are machined to

tolerances as close as .000125 plus or minus, assuring perfect fit at every point.

Michigan Engine Bearings for replacement are made by Detroit Aluminum and Brass Corporation—for over 35 years a principal supplier of original equipment bearings for leading automobiles, trucks, buses, and farm equipment.

Insist on "Turnpike Tough" Michigan Engine Bearings for all your replacements. They're made to stay on the job!

Michigan
ENGINE BEARINGS



DETROIT ALUMINUM AND BRASS CORPORATION, Detroit 11, Michigan



PLYMOUTH AND VALIANT FLEET CARS PAY OFF AT THE PEDAL, THE PUMP AND THE POCKET!

At the pedal—Torsion-Aire Ride makes both these beauties Solid Performers. There's virtually no swing or sway on turns, no "squat" or dive on starts or stops. And both Plymouth and Valiant standard engines are quick, agile, responsive. At the pump—Plymouth's "six" and "eight" are real gas savers—they both won their classes in last year's Mobilgas Economy Run. (Valiant's "six" scored over 27 miles per gallon in this classic, topping its two chief rivals.) And at the pocket—Plymouth and Valiant's solid Unibody means beauty that won't wilt. Welded, one-piece, tough for long life and added resale value later on. See your Plymouth-Valiant dealer for details. Both these low-price beauties will pay off for you in the ways that really count.

61 PLYMOUTH & VALIANT THE TOP TWO FOR THE MONEY



Compare the
Snap-on
ANAL-O-SCOPE
 with any
 other scope
 Those who do...
 choose
Snap-on



A careful study of SNAP-ON sales records shows that in cases where SNAP-ON was able to demonstrate in competition with other leading scopes, there was a big buying preference for the SNAP-ON Anal-O-Scope. Here are the reasons why:

Exclusive ignition reserve test—In effect, this is an ignition dynamometer that puts a calibrated load on the ignition system electrically to simulate an actual road test... faster, cheaper and safer. It spots faults that wouldn't show up on an ordinary scope; proves out work after a tune-up is completed.

Direct reading of both primary and secondary circuits—The Anal-O-Scope is the *only* scope on the market that provides a direct reading of the complete primary circuit, in addition to the secondary circuit. Competitive scopes read a reflected primary through the secondary.

Complete portability without extra-cost attachments—The Anal-O-Scope is powered by the test vehicle's own electrical system, either 6, 12 or 24-volt, allowing it to be used anywhere. This eliminates additional units which are not only costly but troublesome and inconvenient.

SERVICE-BACKED SHOP EQUIPMENT

SNAP-ON TOOLS

8026-L 28th Avenue

Kenosha, Wisconsin

No interference and distortion from 110-volt AC—The Anal-O-Scope operates off the engine battery and when so used can't be affected by line voltage changes and interferences from other electrical equipment hooked into the same line.

However, the Anal-O-Scope can be operated on 110-volt AC when desired. (For example, checking magneto-driven engines.)

Easiest pattern to read and understand—The pattern actually suggests the nature of the fault. Adjustable pattern sizes allow easy viewing of possible problem areas.

Training and follow-up make the SNAP-ON Scope pay—SNAP-ON not only offers you the best, easiest-to-read scope on the market, but also gives you thorough and *immediate* training. Go modern. Stay ahead of competition. Get the latest in test equipment. Ask your SNAP-ON man for an Anal-O-Scope demonstration right away.

SNAP-ON TOOLS
 8026-L 28th Avenue, Kenosha, Wisconsin

Gentlemen:

Please send me your new, free bulletin on the Anal-O-Scope.
 I am interested in a demonstration.

Name

Address

City State



USE THESE PRODUCTS FOR THE BEST IN TIRE SERVICE



"Swivel-T" core can't stick. Comes out easily. One piece plug construction and self-swiveling Teflon plug washer means a safer, stronger air seal.

#880V Standard metal cap with the powerful sealing unit. Order service packages of 100 caps. (Special high heat-resistant caps also available.)



4

A. SCHRADER'S SON • BROOKLYN 38, N. Y.

Division of Scovill Manufacturing Co., Inc.

FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Schrader
a division of **SCOVILL**

Made in America to American Standards of Quality

Send for this catalog



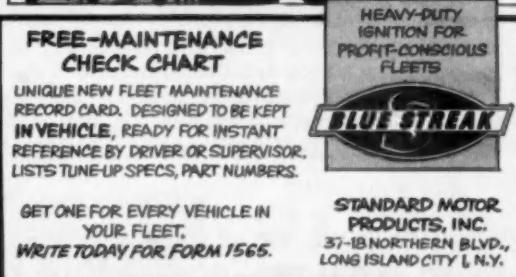
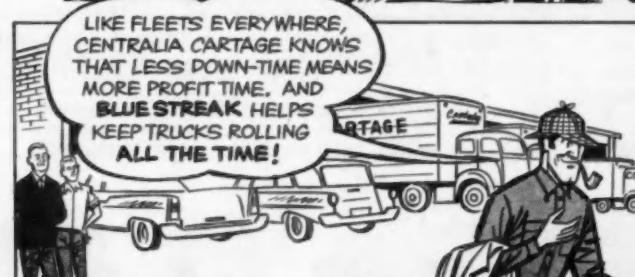
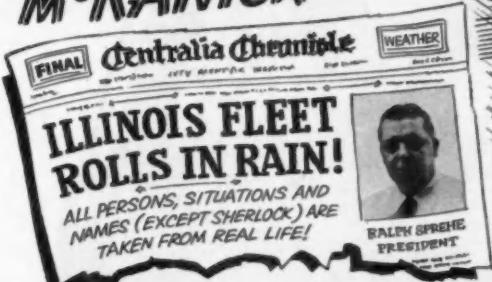
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COMMERCIAL CAR JOURNAL, December, 1960

ANOTHER BLUE STREAK ADVENTURE WITH

SHERLOCK MCKANICK

THE IGNITION
MAINTENANCE
EXPERT



REGULATORS • SWITCHES • COILS • CONTACTS • CONDENSERS • WIRE and CABLE



NEW DIESEL TRACTORS! NEW GASOLINE TRACTORS! NEW 100,000-MILE WARRANTY!

Ford's new H-Series tractors with 28-inch front axle setting and 82-inch BBC are offered in four diesel and four gasoline models with over 500 engine-axle-transmission combinations. Pull longer trailers and bigger payloads! Choose from ten industry-accepted engines—five Cummins diesels and five Ford Super Duty V-8's!

New 100,000-mile warranty on Super Duty V-8 gas engines is most liberal in industry. On 401-, 477- and 534-cu. in. V-8's, Ford Dealers will replace any major

engine part (including block, heads, crankshaft, bearings, valves, pistons, rings) found to be defective in normal on-highway use. Warranty covers full cost of replacement parts for 100,000 miles or 24 months, whichever occurs first . . . full labor costs for first year or 50,000 miles, sliding percentage scale thereafter.



NATIONWIDE SERVICE...look for this sign
at Ford Dealers' across the country, for
service on all Ford gas and diesel trucks!

**NOW! CHOOSE FROM 7 NEW SERIES...GVW'S
UP TO 51,000 LB.—GCW'S UP TO 76,800 LB.**



FALCON



ECONOLINE

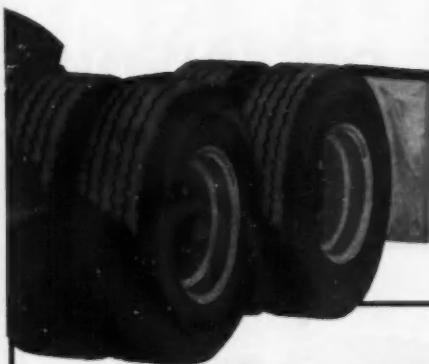


PARCEL

*Economy never came
in such a choice!*

NEW '61 FORD TRUCKS

619 new models! All engineered with one idea in mind . . . economy! New one-piece cab-body design for Styleside Pick-ups! New "Big Six" power for 2-tonners! New Econoline models that pack bigger loads in three feet less truck length! And . . . on all 1961 Ford Trucks, each part, except tires and tubes, is now warranted by your dealer against defects in material and workmanship for 12 months or 12,000 miles, whichever occurs first. The warranty does not apply, of course, to normal maintenance service or to the replacement in normal maintenance of parts such as filters, spark plugs and ignition points.



New! Econoline Van

Modern cab-forward design pares away over a thousand pounds of dead weight and gives as much as 57 more cubic feet of cargo space than conventional $\frac{1}{2}$ -ton panels! Big double doors at both rear and curb side give you wide-open load accessibility! Floor is level, too—no rear engine hump! There's three feet less length for easier turning, parking, garaging. And, the best news, Ford's Econoline Van is America's lowest-priced* van!



New! "Big Six" Engine

Now . . . in a big 262-cubic-inch Six, America's savinest 2-tonners give you the power of big displacement, the durability of heavy-duty construction, plus the gas economy of 6-cylinder design! Available early 1961. You also get improved riding comfort with smoother-acting springs. And Ford gives you a sturdy truck-type front suspension system that can give up to twice the front tire life of some other makes.



F-SERIES



C-SERIES



T-SERIES



H-SERIES

TURN PAGE
FOR MORE NEWS
ABOUT 1961
FORD TRUCKS



New! Styleside Pickups . . . Leaders in Looks, Loadspace—and Low Costs!



Ford's Styleside Pickups, with 6½- and 8-foot bodies offer greater loadspace for '61—as much as 16% more! New one-piece cab-body design on longer wheelbases gives new comfort, greater durability. They're big in savings—as proved in certified studies of gas mileage and tire life. They're big in every way except in price—in fact, they're priced* as much as \$157 below other comparable pickups!

FORD DIVISION, *Ford Motor Company*

FOR 1961

FORD TRUCKS OFFER YOU



New Space-Saving Tilts!

Ford's popular Tilt Cab Series outsells all other makes and for good reason! Compact 82-inch BBC permits longer bodies for a given over-all length and wide-track front axle makes it more maneuverable for congested area work. Ford offers the lowest-priced* tilt-cab model in the industry! And for '61, the Ford Tilts are available with lightweight, fiberglass sleeper cab that adds only 2½ inches to BBC dimension.



New Super Duty Extra Heavies

Ford's Extra Heavies are built for unprecedented durability! Double-channel frames for truck models and single-channel frames of high-tensile steel for tractor models have been designed to provide proper strength with minimum weight. Huskier axles, wider power train choice, short 28-inch front axle setting plus new high durability cabs and sheet metal are typical of the advancements that add up to greater earning power for you.

*From super-economy pickups to super-
Your Ford Dealer's "Certified*



New! Falcon Pickup

Ford's Falcon Ranchero is priced* as much as \$231 less than leading conventional half-toners—but initial cost is just the beginning of your savings! Certified tests by independent experts show gas mileage with the 85-hp Six as high as 30.5 mpg. You only change oil every 4,000 miles, and aluminized mufflers last up to three times as long. New, high-performance 101-hp Six is optional.

*Based on a comparison of the latest available manufacturers' suggested retail delivered prices

New! Parcel Delivery Series

Ford's Parcel Delivery chassis offer the ultimate in operating economy for door-to-door service. New 1/2-ton models, available as stripped-chassis units, are designed to fill the need for special 6- to 9-ft. low step-in bodies with loadspace up to 250 cu. ft. Larger models are also available with windshield front end for simplified body installation. Ford supplies the chassis and you select the body best suited for your needs in four basic series with GVW's up to 15,000 lb.



GREATER ECONOMY and durability in every weight class!



New! Durable Tandems

Ford's Tandem Axle trucks for '61 are engineered to give you greater flexibility and significant payload advancements. Your choice of 22,000-lb., 28,000-lb., 30,000-lb., 38,000-lb., or 38,000-lb. axle capacity. New, longer wheelbases are available to permit installation of special bodies up to 21 feet long. Aluminum walking beams as well as aluminum wheels and gas tanks are optional to keep chassis weights low and payloads high.



New! Highway-Proved Heavies

Ford's Conventional Heavies have 28-inch front axle setting for higher allowable payloads in the "bridge formula" states. For '61, big 332 HD V-8 is standard in all 750 models as well as 800 models. New, more durable cabs and sheet metal, smoother-riding front springs and radius-leaf rear springs give a more comfortable ride. And there's a wider choice of options to fit these dependable units to a wider-than-ever range of jobs.

*-duty diesels FORD TRUCKS COST LESS
Economy Book" proves it for sure!*



Better products, *faster*, from your National Seal jobber:

New NATIONAL FACE SEAL for trailer axles makes oil-bath lubrication positive!

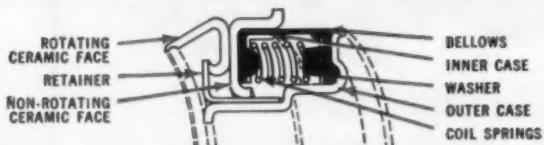
NO SPECIAL TOOLS
NEEDED TO INSTALL
THESE KITS

- New face seal ceramic on metal
- "See-thru" plastic hub cap lets you check bearing lube oil at a glance
- Instant lubrication in all weather
- Oil-bath diffuses heat—protects bearings
- Saves downtime and maintenance cost . . . no repacking needed
- Engineered for simple, fast installation
- Readily available through Federal-Mogul Service and leading jobbers



Here's big news for trailer operators! Now, National face seals bring you high-mileage-tested conversion kits for oil-bath lubrication that's *positive*. An exclusive National ceramic-faced seal that replaces other type seals insures perfect protection for brake efficiency. Oil is locked in to lubricate bearings. Remember, no special tools are needed to convert to National face seals. The money-saving advantages of National kits are proven. Check with your National Oil Seal jobber or write for complete information.

EXCLUSIVE NATIONAL FACE SEAL FEATURES



Note: Wear on this seal is on a tough ceramic surface—not on rubber or leather parts against steel. Dirt particles, being softer than the ceramic seal, cannot lodge in this surface to accelerate wear as with other rubber-to-metal seals.



NATIONAL OIL SEALS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN



10,000-pound capacity container weighs only 1,670 pounds. Built by Highway Trailer Company, Stoughton, Wisconsin, for National Van Lines, Inc., using USS COR-TEN High-Strength Low-Alloy Steel.

For all-purpose cargo containers, USS High-Strength Steels supply maximum strength with light weight

High strength steel offers the most economical strength-to-weight ratio of any material used for all-purpose cargo containers. And with USS COR-TEN High-Strength Low-Alloy Steel, you get the *plus* values of high resistance to atmospheric corrosion, good toughness for resistance to shock and impact, and longer life for the paint job.

Cargo containers must take rough handling since they are used again and again. They need the extra strength and stiffness supplied by USS COR-TEN Steel's high yield point of 50,000 psi. This factor also permits substantial weight reduction with a resultant increase in payload.

Experience has shown that light weight *alone* is



This mark tells you a product is made of modern Steel.

● More details? Circle 117 on reply card inside back cover

not enough for economical service. Containers like these shown have already made *twelve* round trips overseas with payloads both ways. Maintenance has been negligible and contents were protected against damage and pilfering. These containers have 348 cubic feet or 10,000 lb. capacity—about 6% more than their predecessors—and they weigh 300 pounds less, due to the use of USS COR-TEN Steel.

In marine, trucking and railroad container applications, USS COR-TEN Steel has proved highly satisfactory. For more information on USS COR-TEN Steel, write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS and *COR-TEN* are registered trademarks

United States Steel Corporation—Pittsburgh
Columbia-Geneva Steel—San Francisco
Tennessee Coal & Iron—Fairfield, Alabama
United States Steel Supply—Steel Service Centers
United States Steel Export Company

United States Steel



There's No Substitute For EXPERIENCE

OURS WILL SUPPORT YOUR NEEDS



LINCOLN WELDERS • MACK TRUCKS • ALLIS-CHALMERS •

ZENITH® has designed
and built
carburetors for
more different types
of equipment
than any other
manufacturer.

Carburetors and fuel filters for trucks, tractors, buses, fire engines, boats, stationary engines and off-the-road equipment. Put our experience on gasoline carburetors and LP Fuel Systems to work on your problems. Write Zenith Carburetor Division, 696 Hart Ave., Detroit 14, Michigan.



Zenith Carburetor Division

• BUDA ENGINES • GRAY MARINE ENGINES • GENERAL MOTORS TRUCKS

DAIRY • WYSTER LIFT TRUCKS • SILVER CROWN TRACTORS - AGC EQUIPMENT •

• STEELMAN TRAILERS • DIAMOND T TRUCKS • REAR POWER GENERATORS • MASSEY-FERGUSON COMMUNES AND LP TRACTORS • MACK TRUCKS • DUCO TRAILERS

► **A special message for fleet buyers . . .**

REASONS WHY THE NEW OLDS F-85 IS YOUR BEST BUY!

Ever since its introduction, Oldsmobile's F-85 has received an enthusiastic reception from individual buyers and also company buyers looking for *something better* in a smaller car.

The same qualities that have made the F-85 an overnight success with the general public—low initial price, low operating and maintenance costs, exceptional quality, ruggedness and performance—make the F-85 an ideal choice for fleet use!

The price is right!

The new F-85 brings Oldsmobile prestige and reliability to the low-price field! So if you have been buying cars of lesser quality because of their price, be sure to compare how much *more* the F-85 gives for the same money. It's an *outstanding value!*

Economy you need!

Economy is *crucial* in a fleet car.

The F-85 is powered by a brand-new aluminum engine—the Rockette V-8—that squeezes *extra miles* from every gallon of regular gas. In fact, this full eight-cylinder engine delivers better mileage than many sixes! It's standard equipment on all models.

Performance you want!

The 155 horsepower Rockette V-8 is an outstanding performer that provides exceptional acceleration, agility and response under all driving conditions. For maximum convenience, you can team it with Hydra-Matic Drive . . . the unusually easy-on-gas, automatic transmission that's optional at moderate extra cost.

No compromise on comfort!

Door openings are big and roomy for in-and-out ease. Interiors carry six passengers with more than ample headroom, legroom and

hiproom. And styling is typically Olds—smart looking and in the best of taste.

Every inch an Olds!

While the F-85 is a smaller car, it does not sacrifice any of the qualities you have come to expect from Oldsmobile. Fine engineering. Durability. Lasting value. The F-85 is available in either sedan or station wagon . . . standard or de luxe models.

Get the facts—free!

If you are considering a smaller car for fleet use, be sure to see and drive the new F-85. The complete story of *all* the '61 Oldsmobile models is presented in a specially prepared "Fleet Facts" Folder. If you haven't already received your copy, write direct to the National Fleet Sales Manager, Oldsmobile Division, General Motors Corporation, Lansing 21, Michigan.

**Built for the buyer
who wants
something better
in a smaller car!**



F-85 DE LUXE FOUR DOOR SEDAN

F-85 →

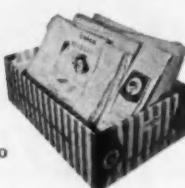
...every inch an
OLDSMOBILE

ORDER YOUR PACKARD ELECTRIC CABLE NEEDS NOW

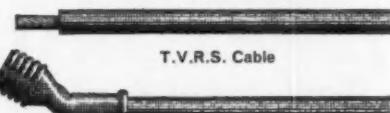
AND ENJOY VALUABLE SPECIAL BONUS!

SPECIAL DEAL—

A CASCO ELECTRIC BLANKET
FOR ONLY \$11.95 A \$20 order for any
combination of Packard products qualifies
you. All you have to do is figure your cable
needs for the season. Ask your U-M-S supplier to
explain just how easy it is to get one of these Casco
Electric Blankets, twin or double size.



Packard Electric has a complete line of quality automotive cables. They are used on more cars than all other makes combined. From Connectors to High- and Low-Tension Cable, through Battery Cable and T.V.R.S. (Television-Radio Suppressor) Cable, Packard Electric Products have a well-earned reputation for reliability and are packaged for profit and convenience.



Packard Electric

Warren, Ohio



"Live Wire" Division of General Motors



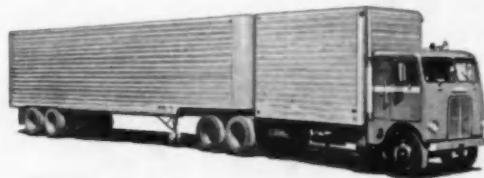
Specify Parish Truck Siderails For Longer Vehicle Life, Lower Upkeep!

Remember—you can *specify* the make and type of frame in the new trucks you order . . . so be sure to ask for Parish alloy steel siderails and get greater efficiency at less cost per mile!

Parish siderails are made of heat-treated, Dana-Loy 110 steel, are 277% stronger than ordinary carbon steel siderails. They're designed and built to stay

straight and strong under capacity loads and uneven terrain, hence protect the vehicle against costly misalignment.

Your truck lasts longer, performs better, and costs you less to operate when it's equipped with Parish siderails. They're available through some 30 truck and trailer manufacturers—so, specify Parish siderails next time you order new equipment.



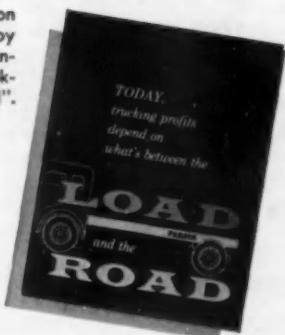
PARISH

PRESSED STEEL



DIVISION OF DANA CORPORATION • READING, PENNSYLVANIA

For the complete story on Parish heat-treated alloy siderails, write for the interesting, illustrated booklet—"Load and the Road".





ROBERT BOSCH
PUTS THE
POW' IN POWER

**in Electric Windshield Wipers that reduce
the dangers of "dirty weather" driving.**

Give yourself and your drivers the extra protection of ROBERT BOSCH Electric Windshield Wipers. Dependable even in the foulest weather... Powered by a rugged ROBERT BOSCH electric motor that's independent of engine speeds. Millions in use. Won't falter even when you step hard on the gas, or climb a hill—won't stall even if your engine stalls. Play safe in "dirty weather." Install ROBERT BOSCH Electric Windshield Wipers now. They're inexpensive, easily installed.

ROBERT BOSCH CORPORATION

40-25 Crescent St., Long Island City 1, N. Y. • 225 Seventh St., San Francisco 3, Calif.
® Reg. U. S. Pat. Off. ROBERT BOSCH GMBH Stuttgart

ROBERT BOSCH
Electric
Windshield Wipers



ROBERT BOSCH
Heavy
Duty
Windshield
Wiper
Type B. The most power-
ful wiper of its type.



The most surprising thing about this new Chevy trunk is that it's even bigger than it looks. That's because practically every inch of its cubic capacity is *usable* space. The first thing we did was move the spare tire up out of the way onto a raised platform. Then we built a deep well into the floor where the gas tank usually is (the tank's been moved forward out of the way along with the tire), to give you 15% greater height for stacking luggage and odd-size objects. And to make sure this would be the most practical trunk ever, we lowered the loading height right down to the bumper! (Chevy's also wonderfully

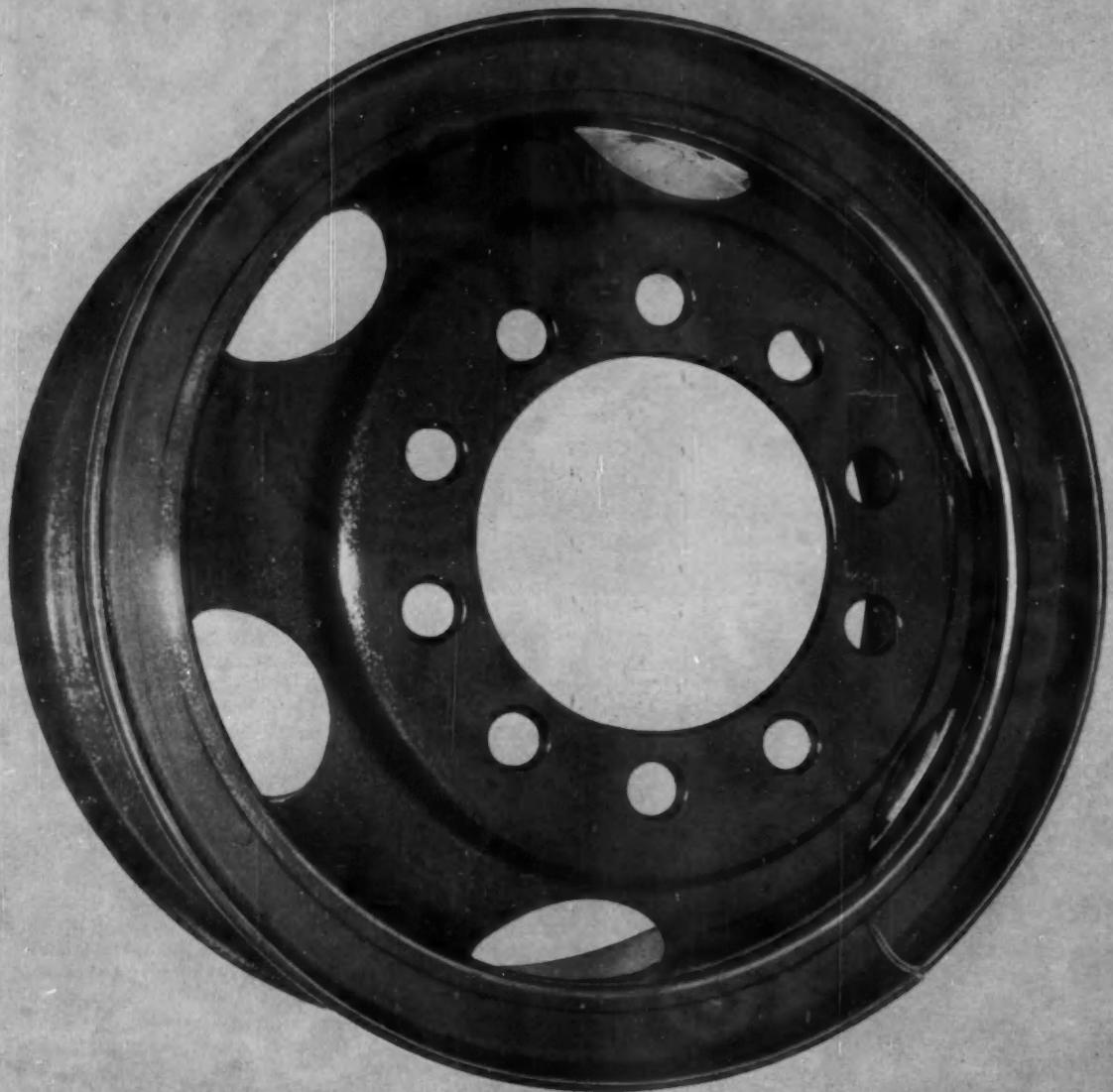
easy to load from the side—thanks to its extra-wide deck lid.)

You'll find that the rest of this Chevy for '61 makes every bit as good sense as the trunk. Those easier-to-get-into door openings, for instance, that are as much as half a foot wider. The higher, more comfortable seats. And the extra leg room in the front—plus greater foot room in the back. These are just a few of the many built-for-business benefits that will help you get more out of your Chevy from the time you buy it till the day you trade it in. See your dealer soon for all the details. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

The fleet car America likes to do business with!



**Truck fleet travels 15 million miles
reports: "minimum maintenance and**



a year,



replacement" with steel disc wheels



Mr. Wesley Marks, Treasurer,
M&M Transportation Co., Boston.

The M&M Transportation Company of Boston operates a fleet of 454 tractors and trailers along the East coast. They haul everything from fresh produce to steel, and log some 15 million miles per year. All wheels on all tractors and trailers are steel, and Mr. Wesley Marks, Treasurer, reports "a very minimum of maintenance and replacement."

"Because of the strength characteristics of the steel used in disc wheels, we get truer tire wear," Mr. Marks says. "The tire wears evenly and that gives us maximum mileage. We have 60 new trailers coming and they will be equipped with steel wheels. I have been in the trucking business for 20 years and have not found anything as safe and dependable as steel disc wheels."

There are other good reasons why steel disc wheels are best: because they maintain their roundness and alignment, they give a smoother ride, increase vehicle life, and are easier on driver and cargo. And steel disc wheels are specially designed for high-speed, long-range operations. For replacement, or for original equipment, always specify steel wheels —you'll be sure of longer service life, greater economy, and unequalled safety. The extra tire mileage is a bonus.

USS is a registered trademark



United States Steel Corporation — Pittsburgh
Columbia-Geneva Steel — San Francisco
Tennessee Coal & Iron — Fairfield, Alabama
United States Steel Export Company
United States Steel



This mark tells you a product is made of modern, dependable Steel.

Watch United States Steel's special Christmas show, *The Coming of Christ*, in Color on NBC-TV, Wednesday, December 21, 8:30 P.M., E.S.T.

● More details? Circle 124 on reply card inside back cover



"THE ONLY TIRES WE BUY ARE NYLON CORD TIRES!"

says G. W. May, Vice Pres., Consolidated Forwarding Co., Inc., St. Louis, Missouri.



"Consolidated" trucks travel winter and summer throughout the Midwest, ranging from Dallas to Chicago. They rely on the extra dependability of nylon tires.

"Why? Because they save us money. Mainly, they cut road delays caused by tire failure. In fact, we've found that nylon cord tires have reduced our total road delay costs by a healthy 25%. They virtually eliminate blowouts due to impact breaks. Nylons also offer better protection against moisture damage that can lead to blowouts.

"And the nylon carcasses are so tough we've been able to recap many of them two or three times. We expect—and get—an average of 150,000 to 170,000 miles out of our nylon tires.

"All told, it costs us a little over a

penny a mile to run on nylons . . . less than any other tires we'd used previously. This means big savings, when you consider that we operate over 460 tractor, trailer and delivery truck rigs. That's more than 5,000 tires in use. You can see why we run on nylon tires exclusively. They're more dependable. They're safer. They cost us less in the long run."

PROVE TO YOURSELF that nylon cord tires bring big savings under any road and load conditions. Ask your dealer about nylons today. All tire-makers use nylon in their better tires.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

THE SAFEST, STRONGEST TIRES ARE MADE WITH **NYLON**

*Broken knuckle pin shows importance of
using only genuine*

Timken-Detroit® replacement parts!

A completely sheared off knuckle pin replacement part caused a failure in a Rockwell-Standard Axle after only 2,000 miles of replacement service. The vehicle manufacturer was notified of the difficulty, and their field service representative forwarded the damaged part to us for analysis.

Examination showed that the pin was a substitute and not of our manufacture. The core hardness was softer than the minimum allowed on our induction hardened pin. Many inclusions were also found in the steel. The knuckle pin in no way matched ours in manufacture, strength or wearing qualities.

"Genuine Timken-Detroit Parts" have been designed, engineered and manufactured to rigid standards to give maximum life and safety. Rockwell-Standard Axles are the toughest made and only "Genuine Timken-Detroit Replacement Parts" can keep them that way.

Another Product of...

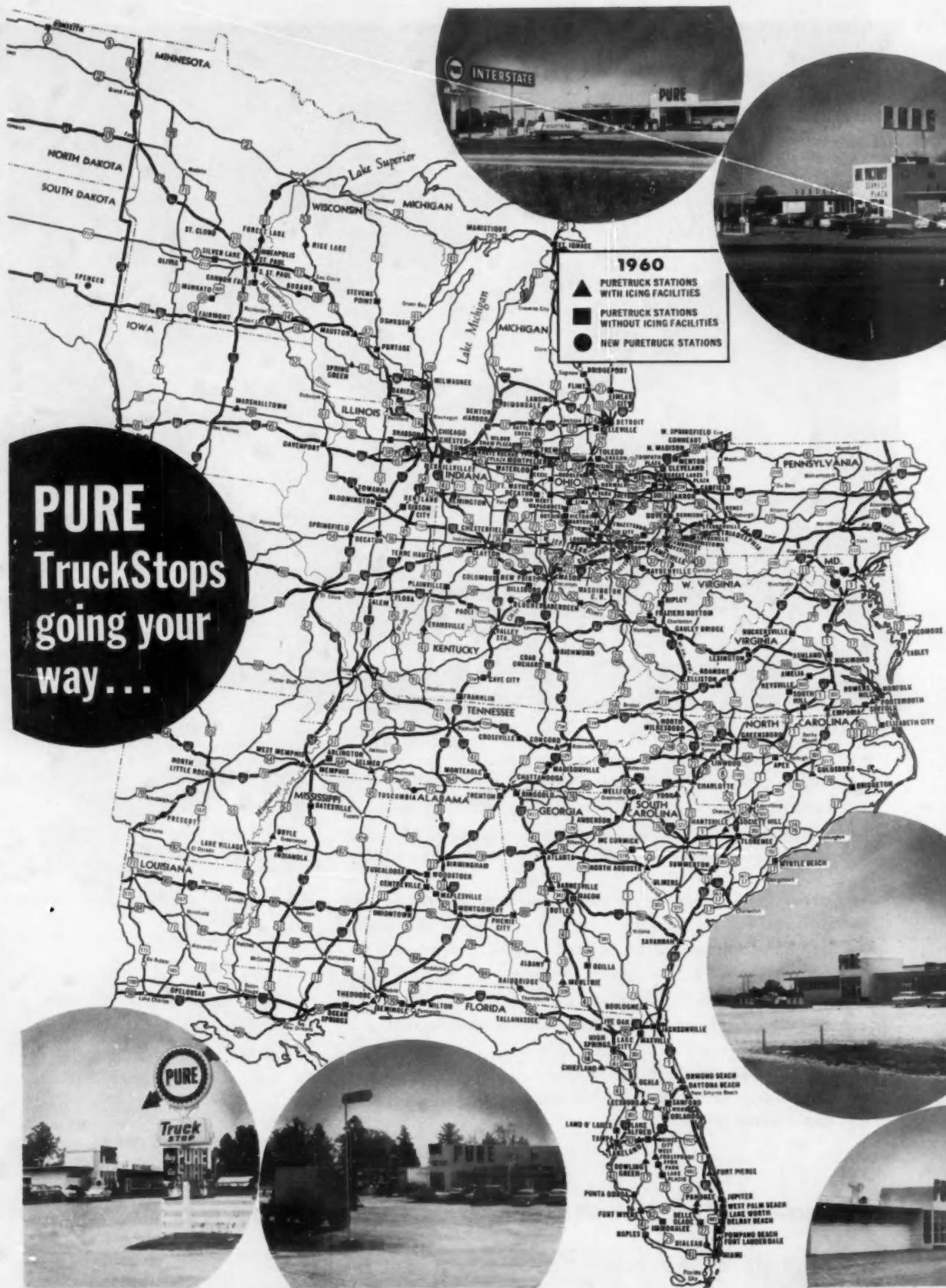
ROCKWELL-STANDARD
CORPORATION

Transmission and Axle Division, Detroit 32, Michigan



**See your
factory authorized
vehicle dealer for
all your "genuine"
replacement needs**

PURE
TruckStops
going your
way...



*No ifs, ands, or buts
about it...*

PURE has the truck stops

**—and the TruckStops
have just about
everything a driver
needs for himself
and for his
valuable equipment**

PURE Truck-Tested products • Expert
lubrication service • Tailor-made truck
credit program • Road and tire service
Good food at reasonable prices
Lounges • Clean sleeping rooms
Hot showers • 24-hour service



When reliability counts most:



Rely on Tung-Sol

It's not by chance that fleet after fleet depends on Tung-Sol Heavy Duty Headlamps to tackle the toughest, most demanding headlighting assignments. Tung-Sol 4005s and 6013s are engineered and built to deliver.

When the chips are down, their ruggedized construction features — durable filaments, anti-shock fog cap support, extra-strength spot weld leads, vibration-resistant ceramic collars — pay off in performance . . . the kind of performance that gets fleets through — safely and on time — whatever the road and weather conditions.

Switch your fleet to Tung-Sol and switch on the most rugged headlamps ever built. Automotive Products Division, Tung-Sol Electric Inc., Newark 4, N. J.



Bright new
Heavy Duty
packages

© TUNG-SOL

Heavy Duty Headlamps

Wilson road-tests Dorsey trailer for a year and 63,000 miles

- New Alcoa Aluminum van hauls 25 per cent bonus payload
- Only routine servicing required

Dorsey Trailers, Elba, Ala., subsidiary of the Dorsey Corporation, landed (through its distributor, Matlock & Cope Truck Body Manufacturing Corporation, Nashville, Tenn.) an order for 100 new vans . . . but only after the customer tested one unit for a year!

Widely known for its efficient maintenance program, Wilson Truck Company, Nashville, Tenn., checked out an all-aluminum Dorsey Model HEPT-20 Hi-Cube trailer on over 63,000 miles of the firm's routes. During the 12-month test, the unit required only routine servicing, according to Raymond Barnes, Wilson's maintenance supervisor. Convinced, the firm ordered 100 new Dorsey trailers.

The Dorsey Hi-Cube 40-ft van—made of Alcoa® Aluminum—is of floor-level design . . . provides 2,540 cu ft of cargo space . . . weighs only 11,167 lb. One-piece

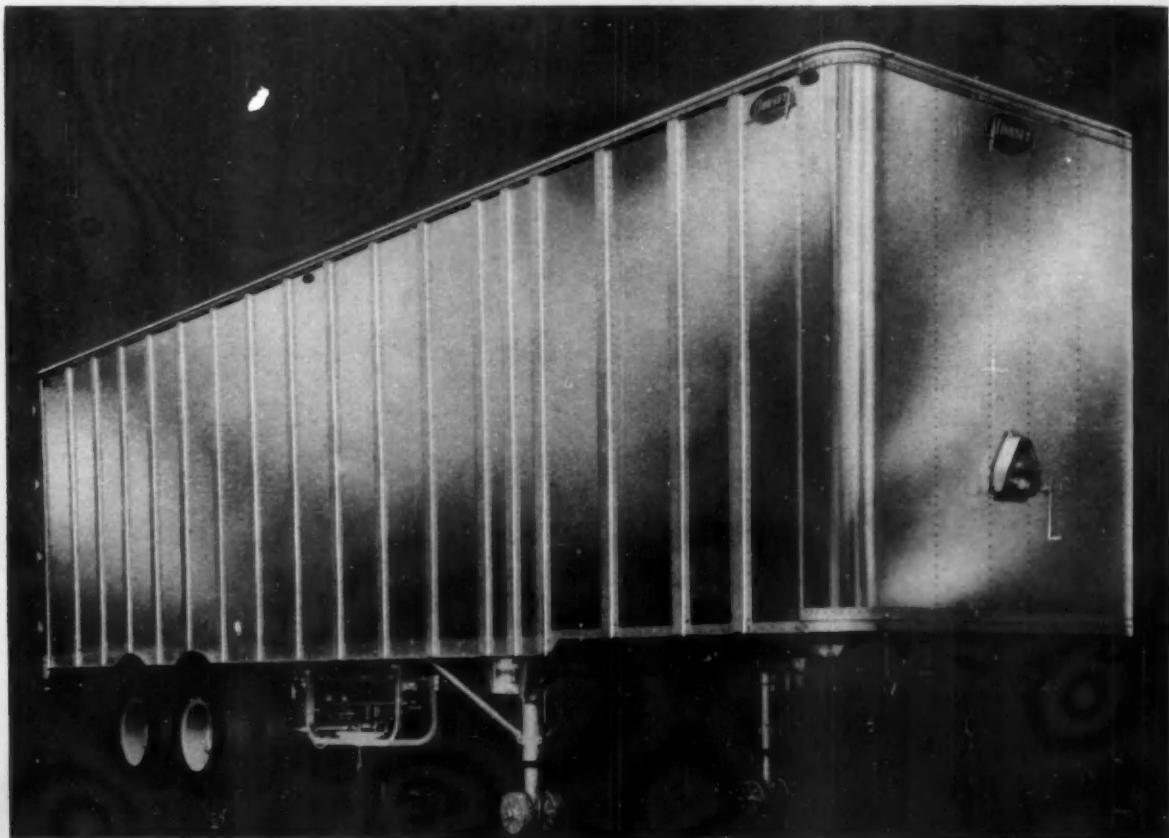


aluminum roof construction eliminates possibility of leaking seams . . . adds to strength and rigidity of van!

Joints in Dorsey aluminum trailers are 40 per cent stronger than those made by ordinary riveting, thanks to Drivematic Riveting—a system used by the aircraft industry to cut fabricating time while improving fabricating quality. (Each rivet is squeezed—instead of pounded—into a precisely drilled hole to make rivet, sheet and post virtually solid metal!)

Additional facts, from actual case-history reports, are yours in a free copy of *The Road to Payload Profits*. Write today and learn how strong, corrosion-resistant aluminum trailers add extra profit through extra payloads that can be carried because of reduced weight, reduced maintenance. Aluminum Company of America, 1770-M Alcoa Building, Pittsburgh 19, Pa.

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA



Big Steel-Hauling Of SPICER



One of 80 steel-hauling GMC diesel tractors belonging to Hess Cartage Company, Detroit, all of which are equipped with Model 6853-C Spicer 5-speed synchronized transmissions and 1700 series universal joints.

Fleet Proves Superiority Transmissions... Universal Joints!

With its giant fleet of truck-trailers hauling huge loads of steel* on stop-and-go runs throughout Michigan and Ohio, Hess Cartage Company, Detroit, is a formidable "testing laboratory" for components of all kinds.

So, when Harry Murphy, Maintenance Superintendent for Hess, says "We've standardized on Spicer 5-speed transmissions on our fleet of 80 GMC diesel tractors," it means something.

"Our preventive maintenance program calls for overhauling our transmissions every 250,000 miles," Mr. Murphy points out. "Frequently, however, when we check our Spicer transmissions we find practically no bearing wear—and gears almost never have to be replaced!"

Hess's tractors are also ordered equipped with Spicer universal joints and propeller shafts. "Our experience with Spicer U-joints and shafts has been very good," Mr. Murphy reports. "We prefer them to any other make."

For further information, write Dana Corporation, Toledo 1, Ohio.

*As high as 88,000 pounds

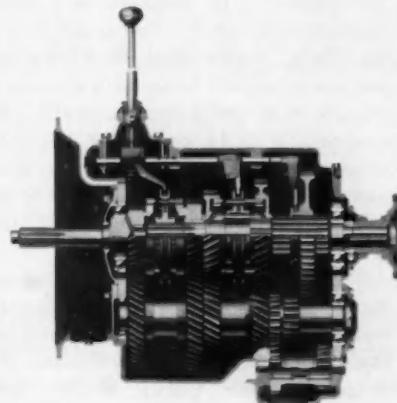


Harry Murphy, Maintenance Superintendent for Hess Cartage Company, Detroit, for over 15 years, has charge of over 600 pieces of equipment, including 80 Spicer-equipped GMC tractors. "We need rugged, serviceable equipment in this business," says Mr. Murphy, "and Spicer components really fill the bill!"



Spicer Universal Joint Propeller Shafts come in a well-diversified range to fit any specific duty.

Spicer 5-Speed Transmissions are available with or without overdrive.



DANA CORPORATION

Toledo 1, Ohio

TOUGH TRUCKS THAT HANDLE LIKE A FEATHER



(thanks to CHEVY POWER STEERING)

The big news for fleetmen who take their earnings seriously is Chevy's Power Steering: it helps make the '61 Chevy trucks *worth more than ever before because you can gross more loads each working day.*

Look over the driver's shoulder and you'll find he uses only 8 to 11 pounds of wheel effort even when nursing a giant heavyweight into a closet-sized dock space. Chevy Power Steering goes to work with a mere 1½ degrees turn of the wheel. All told, steering effort is reduced by as much as 70%.

Chevy Power Steering makes just as much sense for fleet owners as it does for drivers. Easier, quicker loading and unloading gets driver and truck back on the road faster to speed up your schedules. It reduces driver fatigue because Chevy Power Steering's superior maneuverability gives your driver fuller control over

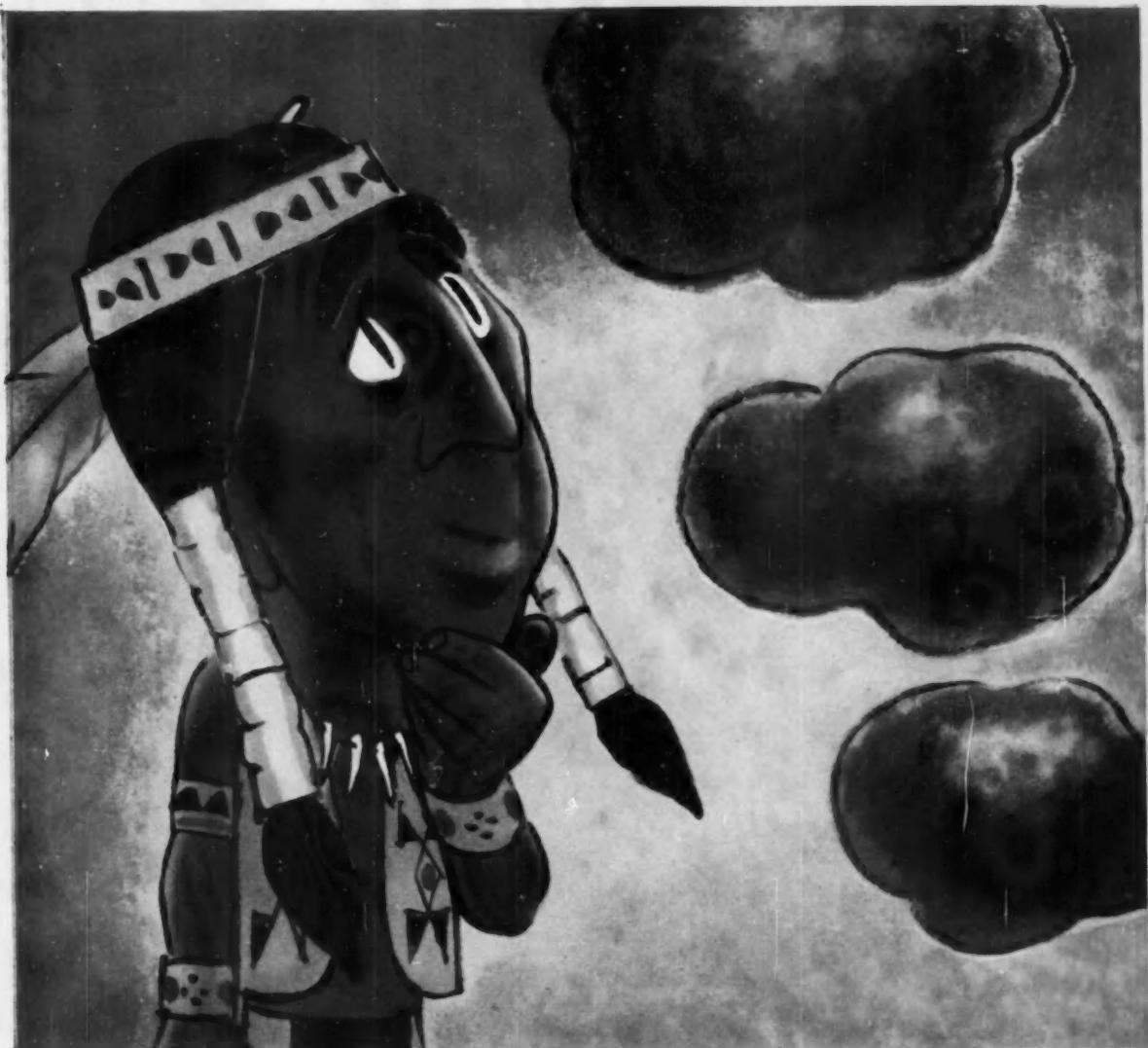
his unit. It helps prevent damage to equipment and property because it makes Chevy trucks even more responsive. And it's virtually maintenance-free with a reliability proven in millions of miles of highway driving.

It's a natural partner to Chevy's owner-proved Independent Front Suspension. With I.F.S., Chevy's front wheels step right over the bumps, while tough torsion bar springs sponge up the jolts. And maintenance gets another assist because the smooth ride reduces wear on truck components.

Go over the specs for the '61 Chevrolet trucks. Make your choice—then be sure you include dollar-saving, dollar-making Chevrolet Power Steering—for the greatest worth-more investment you ever made! Saginaw Steering Gear Division, General Motors Corporation, Saginaw, Michigan.

1961 CHEVROLET STURDI-BILT TRUCKS





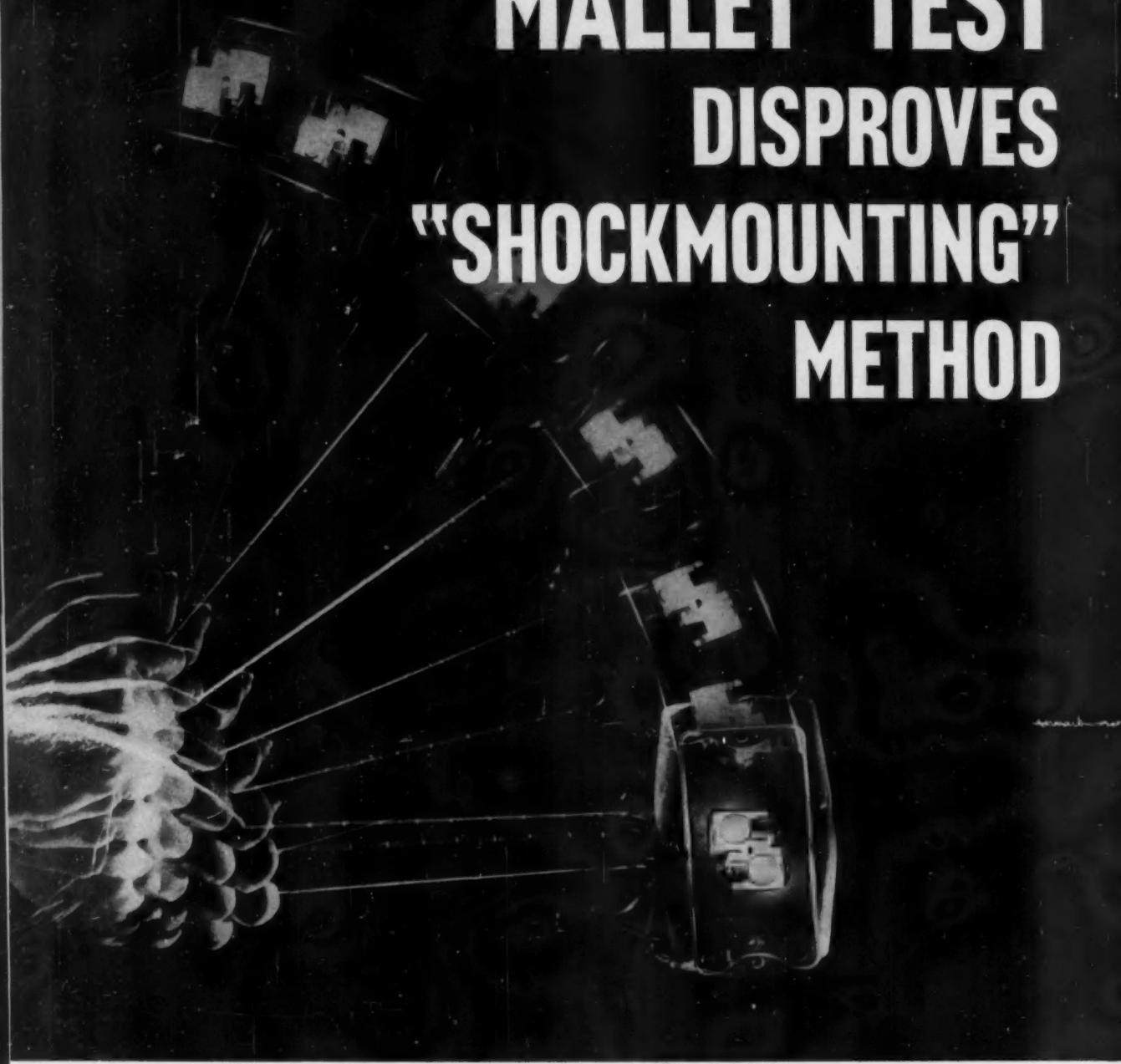
CAN YOU AFFORD TO WAIT FOR SMOKE SIGNALS?

Smoke signals from an engine are sure signs of excessive engine wear and poor engine performance... signs you're in for costly repair bills! Smart fleet owners today are avoiding undue wear by regular use of Fram quality products on a regular change basis. Better find out about Fram's exclusive Fleet Survey System, which enables you to keep a constant check on every vehicle's filters. A Fram Fleet Engineer tags each filter for quick, exact cartridge change... provides you with a complete cartridge change record, assuring complete filter protection with an absolute minimum of inventory! To get maximum performance from each of your vehicles, just drop us a card or phone... **FRAM CORPORATION, Providence 16, R. I., GEneva 4-7000.**

YOUR FIRST LINE OF ENGINE PROTECTION

FRAM
OIL AIR FUEL WATER
FILTERS

MALLET TEST DISPROVES "SHOCKMOUNTING" METHOD



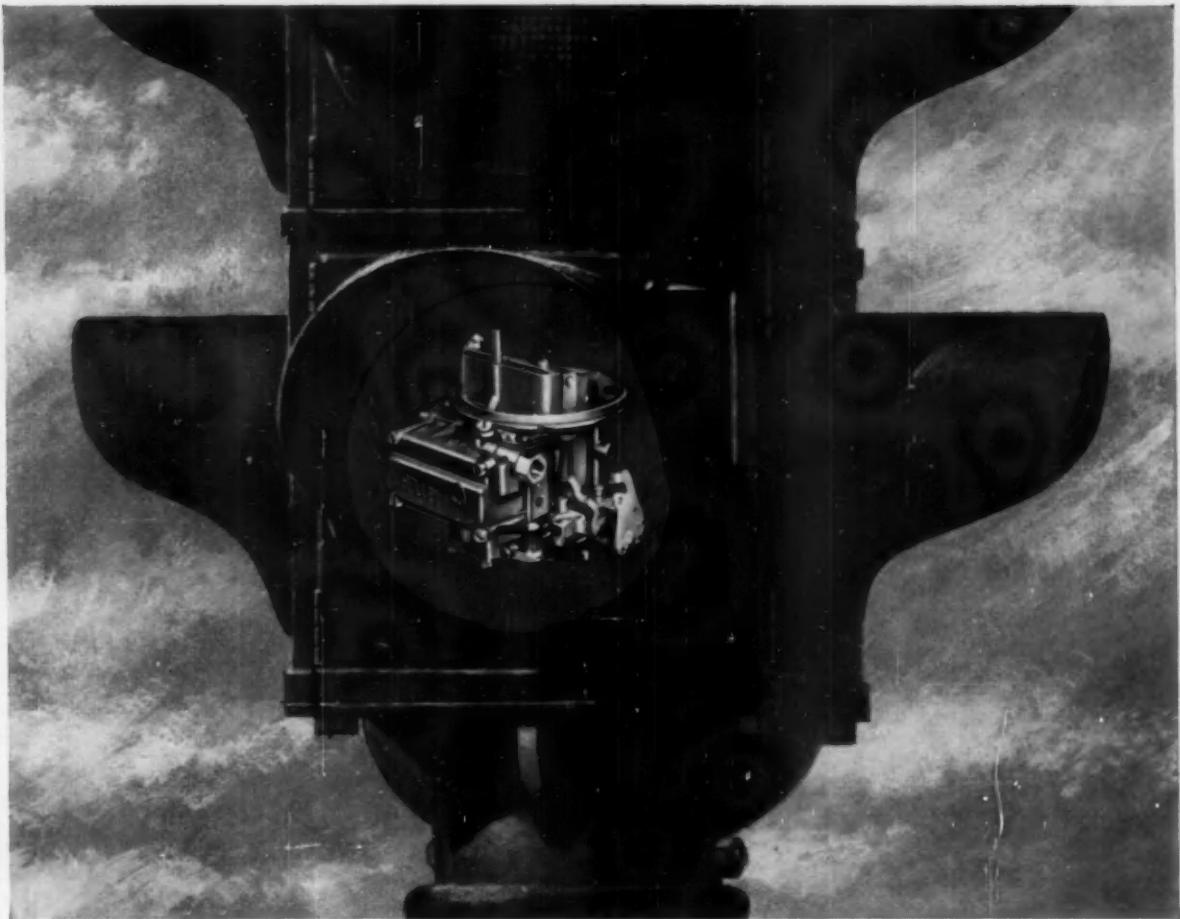
ICC
LIGHTING
REGULATIONS
(REVISED)
TO BE ENFORCED
JULY 1, 1961
WRITE FOR
COMPLETE DETAILS

See for yourself that bulbs used in time-tested and proven mountings
actually outlast "shockmounted" bulbs **EVERY TIME!**

Before you buy another truck light, try the Arrow Mallet Test yourself!
See the amazing side-by-side results. And, get your copy of the new booklet
"A Short Course in Bulb Failure". Ask your Jobber or simply attach
this page to your letterhead. The proof will arrive pronto!

ARROW
DESIGNS WITH THE FLEET IN MIND

GEORGETOWN,
DELAWARE



What happens when the light turns GREEN?

A foot instinctively touches the accelerator. The idling engine springs to life, and the truck moves smoothly ahead. It seems so simple, yet literally years were required to design a Holley Carburetor to deliver the exact fuel-air mixture required for instant response when the light turns green, and maximum performance and economy under all conditions.

The ability to design and manufacture intricate carburetors to the specifications of each engine and vehicle is the reason why so many of today's automobiles and trucks have Holley Carburetors as *original equipment*. They are the latest additions to a long, distinguished parade of vehicles for which Holley has supplied over 65,000,000 carburetors.



Holley Carburetors and Ignition Equipment maintain the Holley reputation for precision quality and dependable performance.

IT WILL PAY YOU IN PERFORMANCE TO
REPLACE WITH GENUINE HOLLEY PARTS—
MADE TO ORIGINAL EQUIPMENT
SPECIFICATIONS!



11955 E. NINE MILE ROAD, WARREN, MICHIGAN

® REGISTERED TRADEMARK

T-12

See Your Authorized Holley Distributor or Dealer—Listed in the Yellow Pages

● More details? Circle 158 on reply card inside back cover

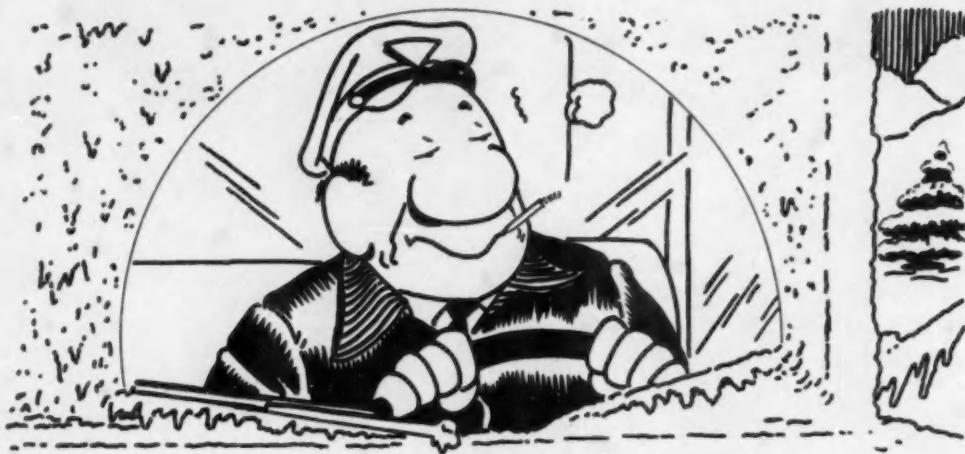
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83

CCJ COMMERCIAL CAR JOURNAL

BULLETIN BOARD

Carbon monoxide gives no warning—



Crack the window



Or you'll crack-up before morning!

Reprints available at nominal cost—for details, circle 499 on reply card inside back cover

Do you know the facts about

OIL COLOR?

The PROOF is on the dipstick...
Hastings Oil Filter Cartridges
clean the oil and keep it clean

Many operators take it for granted that crankcase oil might be dark, particularly with detergent oils. They don't realize that ANY darkness means dirt . . . dirt means abrasives . . . abrasives mean wear.

You can see this dirty oil on the dipstick. Install a Hastings Oil Filter Cartridge. Then, on the next dipstick test, you can prove for yourself that the Hastings Cartridge has kept the oil clean.

You can depend on Hastings to keep oil clean from filter change to filter change.* The reason is Densite, an amazing filtering material composed of millions of pressure-packed cotton fibres that absorb dirt far beyond the capacity of ordinary filters.

Use Hastings Oil Filter Cartridges for every filter change. It pays off in longer engine life . . . better engine performance . . . fewer service requirements.



*Proved by tests conducted under supervision of Pittsburgh Testing Laboratories, in accordance with U. S. Bureau of Standards procedures. U. S. Patents 2,797,811, 2,584,771.



No. 501-M Replacement for Deluxe Sock Type

Here's a metal-encased cartridge with built-in sump. No messy sums to clean—no bags to tear—no overrun cartridges to dig out—no adapters to add. Simply pull up . . . cartridge and sump come out together. All models have Densite filtering material to keep oil clean always.

HASTINGS

offers a complete line of Oil,
Air and Fuel Filter Cartridges



Laugh it off

Personnel Manager: "See here, my good man, you ask mighty high wages for a person with no experience."

Truck Mechanic Applicant: "Well, I'll tell you, sir, it's so much harder to work when you don't know anything about it."

CCJ

The motor freight driver was tooling his big rig along the highway when he saw an old man out in the middle of a dry field with a fishing rod. Scratching his head the driver moved on down the highway until he reached the next house. He asked the neighbor about the old man.

"Did you know that your neighbor is out in the middle of a dry field with his fishing rod?"

"Yep," came the reply.

"Well, what are you going to do about it?" the truck driver inquired.

"I'm going to crank up my motor boat and go join him."

CCJ

Traffic Rate Clerk: "Why is it your vacations never seem to concern you much?"

OS&D Clerk: "It's really very simple. The boss here says when and the boss at home says where."

CCJ

REEFER DRIVER: "WHAT? ME GET A NEW CAR? YOU MUST THINK AUTOMOBILES GROW ON TREES!"

WIFEY: "DON'T BE SILLY. EVERYBODY KNOWS THEY COME FROM PLANTS."

GYPSY TRUCKER: "I'M SORRY BUT I DON'T HAVE ANY MONEY TO PAY FOR THAT MEAL I JUST ATE."

DINER OPERATOR: "OH, THAT'S ALL RIGHT, WE'LL JUST WRITE YOUR NAME ON THE WALL AND YOU CAN PAY THE NEXT TIME YOU COME THROUGH."

GYPSY TRUCKER: "DON'T DO THAT. EVERYBODY WILL SEE IT!"

DINER OPERATOR: "OH, NO THEY WON'T. YOUR UNIFORM JACKET WILL BE HANGING OVER IT!"

CCJ

Freight Loader: "Say, Herman, I want you to meet my girl. She's an artist's model."

Checker: "But, she has a mustache!"

Loader: "She poses for poster advertisements."

— "Cici Jay" —



"She's good at office collections!"

Traffic Cop: "OK, Mac, pull over to the curb and tell me your name!"

Truck Driver: "That's my name on the door of the truck."

Cop: "That's obliterated."

Driver: "It is not . . . it's O'Hoolihan!"

CCJ

President Fleet-Fleet Express: "Any messages for me while I was out?"

Secretary: "Yes, sir. One of the ducks you were hunting last weekend called and left her number."

CCJ

Steno May: "Gee, honey, you sure fill a mean bathing suit these days. You've gained a little weight, haven't you?"

Steno Fay: "I don't think so . . . I still weigh only 118 lb. stripped. But then maybe the drugstore scale isn't accurate!"

CCJ

When the reefer truck driver got back from a long haul, he found that the waitresses in his favorite diner had been outfitted in new uniforms. Each girl had her name embroidered across the left breast pocket of her uniform. The driver's favorite waitress pirouetted for him and said:

"How do you like it?"

"I like it very much," he replied, "but tell me, what are you gonna name the other one?"

Resume Work

**built
for reliability**

ACchieverfone by AC is the most reliable mobile radio telephone available! It is designed to withstand extreme temperatures, adverse weather conditions and rough usage.

Careful design and punishing engineering tests assure you of ACchieverfone reliability. For example, ACchieverfone has been subjected to temperatures far

ACCHIEVERFONE

beyond those anticipated in normal service and found to be completely operative after more than 1,500 hours. ACchieverfone's design protects it from damaging humidity and vibration. Special tubes are used for longer service life under mobile conditions. ACchieverfone also generates less heat . . . a factor that makes other mobile phones old before their

time. In short, you can depend upon ACchieverfone to keep operating long after other models have failed!

Regardless of the size of your company's fleet it will pay you to consider ACchieverfone. Reliability, fast installation, low initial cost and many other features make it the best mobile telephone available today!



ACCHIEVERFONE

Another Versatile Product of

AC Spark Plug



The Electronics Division of General Motors

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● More details? Circle 160 on reply card inside back cover

Don't say "Don't" to drivers

**Men resent being treated like children, and that's
why "Don't do . . ." safety rules are broken.**

A positive approach and clear instructions get more results

THERE WAS ONCE a brand new acting sergeant marching a squad in close order drill. He got them marching OK. But then he had to stop them.

You know what his command should have been. The squad knew what it should have been. But acting drill sergeants being what they are, our hero forgot the correct command. In desperation, he squeaked out, "Don't forward march."

And squads being what they are, the men didn't forward march. Instead they casually walked-off the parade ground and over to a nearby PX!

This is not a true story, of course. But it illustrates the situation you—and other top flight fleetmen—can get into when trying to get safety messages across to drivers.

How many safety messages like this have you passed on to your drivers?

Don't speed!

Don't take chances!

Don't pass on hills!

And how few have been the constructive ideas you have passed on? Drivers aren't children. Yet we treat them like they are. "Don't do that!" "Don't touch!" "No, don't!" "Now stop that!"

What do all these "Don'ts" accomplish? For one driver I talked to, this negative approach to safety resulted in making him—to use his own blunt words—"Dead against safety."

Since a driver who's "Dead against safety" is on the way to being just plain dead, I asked him "Why?"

His answer spoke eloquently for his fellow drivers, for labor troubles, and gave the underlying cause of the poor safety record which the fleet had been experiencing at that terminal.

"Safety is nothing but 'don't', 'don't', 'don't'. It never tells a guy what to do!"

Another driver put it more positively.

"I'd like to know what the hell they want me to do!"

Song writer Johnny Mercer and singer Bing Crosby had the answer to this problem several years ago. Remember "Ya gotta accentuate the Positive, eliminate the Negative, latch on to the Affirmative . . .?"

Look at the rule book

I checked the booklet of safety rules at the terminal of the driver who was "dead against

safety." More than two thirds of the rules were completely negative. What's worse, they failed to point up the alternative "right" actions the company wanted from its drivers.

This one fleet might have been an exception. So I decided to check and review driver rules from a number of companies. Same thing. And now might be a good time for you to take a quick look at your own "Instructions to Drivers." Do they really instruct? Or do they merely say "Don't"?

I'm now convinced that it's high time we recognize the fact that our drivers are not children. They seldom deliberately rebel against a rule that doesn't deserve being rebelled against. Most of them have the sense to realize that, when they do break a safety rule, they're risking their own necks.

But even a sincere, conscientious driver may get fed up with a never-ending "No! No! No!" routine. (Especially if he's been getting the same message from his wife or girl friend. . . . Ed.)

Do, but don't do

Even worse than being negative, however, is the company which asks its drivers to "Do, but don't do!"

A large Midwestern trucking company did just this. In its advertising and promotion activities the company stressed its fast delivery service. And it was effective. And since drivers are part of the company's selling team they were constantly reminded that time was of the essence. "Fast Express" was featured in all the company's ads, and in letters two feet high on the sides of each van.

As representative for the insurance carrier, I attended a "kangaroo court" held at this company. Before the "court" was a driver who had been involved in a serious accident. Two people had died and the truck and cargo had been destroyed by fire.

The verdict was the same as that of the police. The driver was guilty of excess speed. Long skid marks at the scene established the high-speed factor. The driver admitted he had exceeded the posted speed limit for trucks. But it was hard to believe that this, alone, was the cause of his accident. This was particularly true when the driver's supervisor read the fleet's applicable safety rule. . . . "Don't Speed!"

The driver admitted he knew this rule. Then



By Don Buck

Safety Director, United States Continental Army Command, Fort Monroe, Va.

What do you mean, "No"?

If a diplomat says "Yes," he means "Maybe." If he says "Maybe," he means "No." If he says "No," he's no diplomat. . . . But if a lady says "No" she means "Maybe," if she says "Maybe," she means "Yes." If she says "Yes," she's no lady.

This example shows the extremely different meanings people can take when you use the simple word "No." And they take the meaning they want to take. This may not be, and often isn't, what you mean. The result: Drivers, dispatchers, and others may get far different meanings from your safety messages than what you intended. The solution: Be positive; Be specific; Give guidance; Illustrate with examples.

Don't say "Don't"

Continued

Don Buck's "Don't say don't" concept was reinforced in a talk by a communications expert at this year's National Safety Congress. The speaker: Hideya Kumata, Associate Professor, Communications Research Center, Michigan State University. He spoke at a Commercial Vehicle Section session.

Professor Kumata stressed that while there's still a lot to be learned about effective safety promotion, some known principles can be used now. Among them. . . .

1. Be specific. Tell drivers what you want them to do, even if it seems obvious.
2. Make messages easy, even entertaining, for drivers to understand.
3. State messages in terms which agree with drivers' existing opinions.
4. Make information easily available.
5. Build in "rewards" to drivers in your messages to make them accept the ideas you convey for their own self-interest.
6. Your message competes for attention with many other messages—TV, news, family, hobbies, etc. So it must attract. But too many gimmicks, when used only for the attention-getting, lose their effect.
7. Basic attitudes affect driver receptiveness. Mistrust of the company or of an individual supervisor can be a barrier to safety messages getting through.
8. "High shock value" messages have low learning value. They get attention, but people "tune-out" words which dismay them. The "what to do about it" part of the message also may be "tuned-out."
9. Drivers don't have to like a message to learn from it. They may like a presentation for its entertainment. They can learn more from a less entertaining message.
10. Written messages are often too many or too long. Even good written messages must be backed-up with face-to-face follow-up.

he added, bitterly: "Just two weeks ago I was told by the terminal manager to quit dragging my feet on the run—or I would be replaced by a cowboy who could hold to the schedule."

An accident review board, even though I called this one a "kangaroo court," is an established tool in many safety departments. It can be a good tool. But let's see what this one accomplished. . . .

- It quickly pinned the blame on the driver for the accident.

- It completely failed to get across to him what the company wanted when it stressed the need for fast service.

- The verdict made the driver bitter. More than this, it aroused the sympathy of his fellow drivers, who also had been told "Do but don't."

- And a costly strike followed.

This company has now discontinued its emphasis on "Fast Express." Instead, it now stresses dependable and careful service.

Do drive safely

More important, the safety rule "Don't Speed" has gone. In its place: "Always drive within posted speed limits, and go even slower when required by traffic conditions." This company has found that a safe trip, all the way, is more important than a fast trip, part way.

Now, if you don't say "don't," what do you say?

Blackstone, under whom Lincoln studied as a law student, once stated that it's "but lost labor to say 'do this or avoid that' unless we also declare: 'This shall be the consequence of your non-compliances'."

This suggests a step in the right direction for traffic safety, a sort of "Do this, or else" idea. But it still falls short of the goal of telling the individual what he *should* do, and *why*.

How to write a rule

A good, effective, safety rule must tell the individual what you want him to do, and why it is to *his* advantage to obey. When a rule prohibits an action, the need for prohibition must be clearly explained.

But the need for "Don't do" rules is slight. As a matter of fact, there's no possibility of covering every traffic hazard with a set of "Don't" rules—unless you throw in "Don't drive" and then, of course, you condemn the driver to the fate of being unemployed.

(TURN TO PAGE 142, PLEASE)



Radio tells trucks where to go

For common carrier Garvey Transportation that means intercity trucks as well as PU&D's.

For Buffalo Gravel's transit-mix fleet, it means more customer satisfaction.

For Southland, it means the service fleet operates at a profit

Garvey Transportation covers 70-mile area



Hitch-hiking a ride on a TV tower extends benefits of two-way radio to intercity trucks as well as PU & D's

A VALUABLE TOOL became even more profitable when J. A. Garvey Transportation, Inc. discovered that a radio tower is like a basketball player. The greater the height, the greater the reach.

"We thought we had it good when we first installed two-way radio in our fleet," says Dave E. Burns, terminal manager, "But when we began to utilize a higher tower last summer, our transmitting and receiving area jumped from a 20-mile radius of Boston to 70 miles. Our system's efficiency increased 100 per cent."

The change Burns refers to consisted of moving the transmitting unit for Garvey's radio system from the 26-story John Hancock Bldg. in downtown Boston to the 850-foot level of the

1300-ft WBZ-TV tower in Needham, Mass. (see photo above). It put the radio system on an intercity basis.

Fleet headquarters is in Boston. Routes span through New England, New York and New Jersey. Most of the 150-vehicle fleet is equipped with mobile radio. All intercity units have radios. Base stations at headquarters, in Manhattan and at the New Hampshire terminal are all on the same frequency. This simplifies matters for intercity drivers using the sets whenever they come within range. All radio equipment carries the Motorola brand.

The system operates in the VHF (Very High Frequency) 150-megacycle range. For practical purposes, this means that messages can travel be-

Garvey Transportation

Continued

Biggest benefit of longer range two-way radio is greater utilization of intercity trucks as well as PU&D's, but it speeds service and cuts road breakdown costs as well



tween two distant points which have a clear line of sight between them. With the present set-up the system has 100 per cent efficiency at a 50-mile range. At points in the 70-mile range, drivers can check in when they're on a hill. Base stations use 60-watt transmitters. Mobile units have 30-watt power. Many of these are transistorized.

Garvey reaps the usual values from having mobile radio dispatched equipment. In its long-range system, however, it gets "plus" values.

Increased range has meant that customers in the Worcester area (central Massachusetts) can dial their local exchange and be connected with the Boston dispatcher. He in turn contacts a truck in the customer's area for a quick pick-up.

The Boston dispatcher has similar contact with drivers in most of Rhode Island and with the New Hampshire terminal.

Vehicle utilization

Greater utilization of intercity equipment also has resulted from using radio. Here's how that works. . . .

A Boston-based rig will pick up a load for delivery in New York. Leaving Boston at night, the driver contacts the New York terminal en-

route to make unloading arrangements. If it's a hot load it will be unloaded when it arrives. Then the tractor, the trailer or both will be used for local pick-up and delivery during the day and sent back to Boston that next night.

PU&D trucks with city deliveries at times are held at the terminal to get an incoming shipment from an intercity rig that's on the way. If the intercity driver radios in that he's tied up in traffic, the dispatcher will then clear the local trucks.

Dollar value of the increased range is hard to pin down. Dave Burns offers this incident as being typical of those which make the fleet consider the higher-priced equipment well worth its cost.

"We got a call from one of our inbound trucks coming into Boston from New York. The driver reported he had broken down in Union, Conn., near the state line.

"As soon as we got the call we dispatched a tow truck. It drove the 70 miles, made the repair and started back. Just as the tow truck left Union, I got a radio call from another breakdown in Worcester. The tow truck took care of that one too, on the way back.

"Before we had the radios and the additional range, our tow truck would have got all the way

back to Boston and then would have had to have been sent to Worcester."

Cost analysis of the limited-range vs expanded-range radio for this incident shows the following figures:

Under the old, limited-range system, there would have been a 140-mile round-trip between Boston and Union. The second call would have meant another 80-mile round-trip between Boston and Worcester. Total mileage: 220 miles. At an average tow truck operating cost of eight cents a mile, that comes to \$17.60.

And in the tow truck driver's wages for the 6½ hours needed for the two trips (at \$3.00 an hour) for another \$19.50, plus 3¼ hours waiting time pay for the driver of the rig that was hung up in Worcester (also at \$3.00 an hour). Total cost: \$46.85.

Thanks to the longer-range radio, road mileage was actually 146 miles for a tow truck operating cost of \$11.68. The tow truck driver's time was 4 hours and 20 minutes. Wage cost: \$13.00. Waiting time for the driver in Worcester was an hour and five minutes and cost \$3.15. Total actual cost of the incident was \$27.83 for a saving of \$19.02 from what it might have been.

Greater use of intercity rigs has already been cited. Drivers automatically radio in every two hours on these runs. The dispatcher figures the estimated time of arrival, and lines up a driver for a return trip—unless the rig is to be used for local work that day.

On local equipment the drivers check in after each stop. Before the radio equipment, they phoned in. The costs of the calls and the delays in making them have now been eliminated. Better driver supervision is another benefit.

Like most other radio users, Garvey finds it hard to pin an actual dollars and cents value on the radio equipment. In round numbers, however, company management estimates that radios have produced cost savings of 30 per cent.

Radio cost and service

The fleet owns some radios, leases others. It has a contract maintenance arrangement with Two-Way Radio Engineers, Inc. Boston. Monthly bill for leased radios and maintenance comes to \$1320. Average cost per mobile unit, including installation, is about \$485. Lease is set for a five year period and has a purchase option clause at the end of its run. Tower rental is \$1200 a year.

Many of the new radios are transistorized. These have lowered both radio and vehicle maintenance costs. Main effect on the vehicles has been to reduce power use and battery trouble.

Buffalo Gravel saves more than it costs

It takes a well-trained dispatcher, but savings due to two-way radio can exceed \$1 a day

THE DISPATCHER IS THE KEY to extra value from Buffalo Gravel Corp.'s mobile radio system. With the right man in the job, the company now has peak control of its ready-mix concrete fleet. The cost: About a dollar a day, per vehicle.

Is it worth it? Buffalo Gravel says even if you take so low a figure as \$4 an hour as cost to operate a truck, two-way radio pays. At this rate if you only eliminate the actual 20¢ plus truck waiting time cost of two phone calls, you break even. With a dispatcher who makes most use of two-way radio, like Buffalo Gravel's does, it saves more than it costs.

What makes a good dispatcher in this type of operation? From L. A. Kasmore, Buffalo Gravel's Manager of Operations, come these specifications:

He has to know the city's streets, of course, and the most direct routes.

He must know the company's customers, especially those for whom special arrangements have been made.

He has to know each job. He must know when the job's running smoothly on schedule and when it's being delayed. He must know when extra loads are needed to keep a continuous supply of concrete on the job. On the other hand, he has to know when unloading delays occur so he can re-assign loads to other jobs instead of having them delayed at the job site.

He has to know and understand drivers. The goal: To put each driver on the job he's most qualified to handle and thus improve the company's customer relationships.

Kasmore sums up additional requirements this way:

"The ready-mix business is a unique type of

Buffalo Gravel . . .

Continued



Buffalo receives orders by phone, relays them to yardman by intercom, controls delivery via radio

industry, and the dispatcher, if at all possible, should have at least two years of on-the-job experience to service the variety of jobs properly and in a manner most beneficial to this industry.

"A cool, calm, level-headed man knows at all times what he is doing. . . . After a man has acquired the experience as a dispatcher, we feel that he is also excellent sales material. He should be able to go out on the road, meet the customer, and solve most problems that arise.

Most customer orders are phoned in to the Chief Dispatcher. New accounts are first checked by the credit department. Once ok'ed they are relayed to the proper plant. There the yardman relays them by intercom to the weighman. He then makes up the delivery ticket and material report.

All sales cars, service vehicles and mixer trucks have two-way radios. When a truck has mechanical trouble, when a job needs extra equipment, when a driver spots a new job site which may be a sales lead, or whenever the unexpected happens—a touch on the mike button is all that's needed to be in instant contact with the dispatcher.

Buffalo Gravel's radio system was engineered by a Motorola communications representative. Base station is at the company's headquarters. Secondary control points are at the company's four yards. Says John McConnell, the company's chief dispatcher, the system is a tool he needed urgently. Now he has it, he's making the most of it.



To get most use of two-way radio, Buffalo says the dispatcher has to know the city's streets and the most direct routes. Maps, such as this one used by the fleet, are a useful tool in two-way radio

It makes Southland's

Costing \$2000 a month, it was in the

► OPERATING AT A LOSS for 10 years was the fate of the service fleet of Southland Heating and Air Conditioning Co., Long Beach, Cal.

Now that's past history. The fleet is now a profit-making part of the organization. Two-way radio made the difference.

Southland is one of southern California's big-



Large-scale street-and-highway map is also part of Southland's two-way radio installation. It helped in regrouping service schedules in outlying districts to give trucks more concentrated work areas

service fleet profitable

"red." Two-way radio boosted volume 20 per cent to put it in the **"black"**

gest heating and air conditioning firms. As a truck operation, though, it's a small fleet. Until two-way radio was installed, the fleet was a necessary, but costly evil.

Southland President Don Will states the problem this way. . . .

"We did everything imaginable to get this op-

eration into the profit column. We advertised and promoted to build-up volume. We used incentives to get the servicemen themselves to bring in more service business.

"We constantly re-evaluated service department administration to try to find loop-holes in our operation. On several occasions we even con-

Southland's service . . .

Continued

One unlooked-for advantage in Southland's operation is that servicemen can swap information on complicated installations, get jobs done faster



sidered discontinuing our service operations entirely. But that wasn't the answer we wanted."

\$2000 a month loss . . .

"Despite the fact that we were getting top money for our service work," recalls vice president Bob Hall, "we were losing as much as \$2000 a month in our service department. The only thing that increasing our volume did was to proportionately increase our overhead."

The company installed an RCA radio system in its fleet and at home base. Some operational changes were also made. This included providing the dispatcher with a tiered rack file of customer service contracts and orders, a detailed wall map of the areas served, and the regrouping of service schedules in distant areas.

... Changes into a profit

"We knew," Don Will explains, "that we had to cut time lost between productive calls. We figured we could edge into the profit column if we

could get 15 per cent more calls per day without increasing our crews."

Actual result of the radio system was a 20 per cent boost in the department's production. And there were other benefits.

Phone bills were cut by nearly 30 per cent. Less need for phones made it possible to have a couple of trunk lines taken out. This meant additional savings in fixed charges. Customer goodwill was also increased. Service Dept. Manager Don Kuehnert offers this example:

"We had a hospital that developed air conditioning trouble in the middle of one of our hottest days. The nursery was seriously affected. Though we were swamped with calls, we were able to radio one of our men in that area just as he finished one of his jobs and re-routed him to the hospital. He was there within minutes of the time we received the call."

Another advantage cited by Kuehnert: "Servicemen are able to talk directly to each other. If one runs into a problem on a job and needs advice from a man more familiar with a particular installation, he can get it almost right away."

At the
Transportation
Meeting . . .

Fleetmen talk



VEHICLE SELECTION

With fleetmen doing the talking to other fleetmen,
you'll find what they say about this timely subject to be
practical, down-to-earth and useable in your fleet

VEHICLE SELECTION had the spotlight at Society of Automotive Engineer's recent National Transportation Meeting. Almost one-third of the three-day conclave was devoted to this timely subject.

Discussion was almost 100 per cent from the fleet manager's view. The speakers were, all but one, from large fleets . . . brought a wealth of experience to share with the other fleet operators at the meeting.

There was H. G. Steigerwalt, transportation director for Sealtest Foods Division, National Dairy Products . . . J. B. Boynton, Executive vice president of F. J. Egner & Son (formerly of Motor Cargo) . . . H. O. Mathews, transportation and distribution general manager for Armour & Co. . . . C. C. Hudson, assistant chief of the Transportation Branch, Tennessee Valley Authority . . . C. A. Carlson, chief engineer, Axle & Transmission Dept., International Harvester . . . W. F. Eaton, fleet maintenance director for Mason & Dixon Lines . . . W. A. Rigg, fleet supervisor, and R. F. Jeide, sales engineer, Northern States Power Co.

One thing stands out. While each speaker was describing the vehicles in his own field, what each said applies to almost any type of fleet. For example, Steigerwalt's 10 steps in vehicle selection centers around door-to-door delivery trucks, but the 10 steps can be used with great benefit by almost any fleet. As might be expected from a utility fleet expert, Hudson has lots to say about special equipment. But you'll find the points he



Transportation meeting

raises apply to your component selection decisions too.

To save your time, we've reported here the highlights of the talks. If you'd like to have complete copies of any or all the papers, you can get them from Society of Automotive Engineers, 485 Lexington Ave., New York 17, N. Y., for a small charge. Ask for them by title and number.

- Selecting the right vehicle for the job—Door-to-door delivery vehicles, H. G. Steigerwalt, Paper No. 252A.
- Basic considerations for selection of over-the-road vehicles, J. B. Boynton, Paper No. 252B.
- Selecting the vehicle for the job—Passenger car fleets, H. O. Mathews, Paper No. 252C.
- Selection of vehicles for public utility service, C. C. Hudson, Paper No. 252D.
- Effect of driver technique on vehicle design, C. A. Carlson, Paper No. 253A.
- Modern commercial vehicles and their complexities, W. F. Eaton, Paper No. 253B.
- Problems with commercial vehicles in utilities W. A. Rigg and R. F. Jeide, Paper No. 253C.

When ordering, tell SAE they were presented at the 1960 National Transportation Meeting.

10 steps in multi-stop vehicle selection . . .

from H. G. Steigerwalt
Transportation Director
Sealtest Foods Division
National Dairy Products

FOR A DOOR-TO-DOOR delivery vehicle, we want a short, low, compact unit with good maneuverability. It must be somewhat more rugged than a road truck of comparable weight because of (1) the greater stress and wear in multi-stop service and (2) the extra exposure

to damage in more congested traffic. It has to be readily serviceable and must provide visibility, comfort and accessibility for the driver. In the final analysis, it must give long, continuous service at lowest possible operating costs.

Here are 10 steps in getting such a vehicle:

1. Establish vehicle requirements. Study the job you want to do . . . mileage, terrain, road, traffic, number and frequency of stops, weight and size of the product, product protection and insulation.

Included should be loading and unloading facilities, dock heights, yard elevations . . . with an eye to new ideas in product handling.

Don't forget efficiency, safety and comfort for the driver. He spends more time in the vehicle than anyone else.

2. Review performance of present equipment. Check maintenance records for costs and for component life . . . engines, clutches, transmissions and axles. A cost comparison of the 20 fastest moving replacement parts will help.

Importance of this is that operating cost of a vehicle is 5 to 7 times the initial purchase price. A way to keep operating cost down in selecting a vehicle is to include features giving long life and low mileage cost.

3. Standardize your fleet. It pays-off in less parts investment, easier maintenance. On the other hand, change when you can take advantage of better design and more efficiency.

4. Investigate what's on the market. Make a thorough check of standard specs and options offered by vehicle and equipment makers.

5. Set your specifications. Stay as close as you can to standard models, parts and equipment.

Forward control or COE types will give shortest turning radius, shortest overall length and take up least space in the parking lot. Flat-face cowl or standard cab and chassis may be more desirable from a roadability standpoint in suburban and semi-rural operation. Wheelbase should be shortest consistent with good weight distribution. Drop frame chassis and body with direct access from the cab cut driver fatigue and boost delivery efficiency.

For a delivery vehicle grossing less than 10,000 lb, a 100-hp engine should be ample. On a route of less than 50 miles, a 4-cyl or less

(TURN TO PAGE 132, PLEASE)

Driver habits affect truck selection

from C. A. Carlson

Chief Engineer

International Harvester

Axle & Transmission Dept.

THIS REPORT puts the finger on driver habits as a factor in truck selection.

Selection of adequate component design can offset to some extent a bad driving practice. But it's cheaper to correct the abuse than to beef-up components to a point where abuse makes no difference in their useful life.

For example, when an off-highway vehicle is fully loaded and mired in the mud, drivers have found that by running the engine at high speed, with the vehicle in gear and the clutch disengaged, they frequently can transmit adequate torque to overcome the situation by slipping

their foot off the clutch, thereby getting a very severe clutch engagement. Similarly, a driver will resort to a momentary but rapid clutch engagement to initiate movement of a very heavily loaded vehicle on a very steep grade.

It's true that the designer must consider the fact that the drive train can be subjected to much higher torque values than those represented by the maximum engine torque. But even using the best steel available and the best possible heat treatment for a given application, it is not feasible to produce a vehicle which can be subjected to the most severe impact torque possible for an infinite number of applications.

This would require excessively large rear axles, drive lines, and transmission, thereby greatly reducing the vehicle payload and greatly increasing its initial cost to an impractical degree. To meet this situation, a factor of safety is used in the design of these components which will permit a reasonable number of severe torsional impacts during the life of the vehicle. It should be borne in mind, however, that repeated vehicle operation of this type can result in damage to these components.

Factors in passenger car selection today

from H. O. Mathews

General Manager

Transportation & Distribution

Armour & Co.

ORIGINAL COST, extra equipment, area of operation, prestige, life expectancy, resale value, maintenance, company advertising and management policies all affect selection of passenger cars for fleet use.

In today's passenger car fleet operation, any fleet supervisor charged with the responsibility of economical operating costs is probably more

interested in the original cost of the passenger car than any of the other factors. We work toward the lowest-cost vehicle to meet the bare transportation requirements . . . For the ordinary salesman in metropolitan, urban and suburban territory this lowest-cost vehicle generally provides all that is needed for transportation.

Automatic transmissions?

Extra equipment has become a more serious consideration in the past few years. In many operations, resulting in long trips and high use factor of the cars, extra equipment may have some merit. Included in this extra equipment are such items as automatic transmission, more effective heaters, and air conditioners. Naturally, the investment in such equipment is not all lost, particularly if the cars are not op-

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Transportation meeting

What to look for when buying tractors

from W. F. Eaton
Fleet Maintenance Director
Mason & Dixon Lines

HERE'S a check list of things to look for when buying tractors. It doesn't cover the whole job, but it includes a lot of fine points based on practical experience.

Air intake system with a minimum of restriction . . . preferably on the same side as

the intake manifold . . . with as few elbows and joints as possible . . . large enough to supply *all* the air the engine needs . . . located so it doesn't suck in water on a rainy day.

Cab doors with longlife hinges, hardware, posts . . . having adequate provision for attaching and supporting mirrors.

Cabs with strong supports . . . odor and dust-free air ventilation . . . adequately sealed and insulated engine "doghouse" . . . comfortable seat-steering wheel spacing for your drivers . . . adequate windshield-steering wheel clearance . . . windshield slant that does not reflect dash lights . . . openings for pedals and transmissions that have long-life boots that seal the opening . . . defrosters that work over the entire windshield area.

Radiators with tanks of adequate gage metal . . . correctly baffled . . . seams that won't

Selection considerations for over-the-road vehicles

from J. B. Boynton
Executive Vice President
F. J. Egner & Son, Inc.

HERE ARE five basic considerations when purchase of line-haul vehicles is contemplated. Now that is a simple, direct statement which might lead the uninitiated to believe that all the problems have been solved in this field. Nothing could be further from the truth. . . .

In summary, the vehicle must be built to get:

- Lower first cost.
- Lower operating costs.
- Parts availability at reasonable cost.
- Better salvage or resale value.
- More safety.

First consideration when selecting equipment

is usually the capital investment. I am sure that all the other things that I will ask for would be immediately available if first cost were no object. If all users were to demand that manufacturers build the vehicles up to a standard of quality instead of down to a price, many of the field problems would fade away.

Careful selection by the manufacturers of their component accessories would be most beneficial, and I am thinking now of the numerous small and normally inconsequential items, such as quick couplers on wiring harness, fuse holders, or circuit breakers. Small electric or air-power units, plugs for the extra holes in the fire wall, wind boots for the controls, resistors on gauge circuits, thermostats that fail to function properly from delivery, fuel-tank capacity meters, tachometers, tach and speedometer drives and seat-adjusting gear.

Here, by a nominal addition to first cost, a tremendous savings could be effected over the million-mile life some of us have come to expect from line-haul vehicles.

(TURN TO PAGE 136, PLEASE)



split . . . tubes of adequate gage . . . hose long enough to absorb engine vibration . . . bottom supports not likely to be torn loose because of frame rail movement.

Cooling system temperature-sending units located where heat builds-up first.

Fan and other accessory-drive belts protected from excess heat exposure . . . long enough . . . of adequate quality . . . with properly aligned pulleys of adequate diameter.

Windshield wipers with motors heavy-duty enough to do the job . . . simple and strong linkage . . . sound air connections . . . blades that don't scratch . . . adequate cleaning pressure . . . motors located for easy service . . . maybe a torque clutch to eliminate damage to splines and linkage.

Front-end alignment with tire, rim and wheel assembly balance for a complete job.

Water, oil, air, fuel and electrical lines bracketed . . . protected from chafing.

Electrical wiring with adequate terminal blocks . . . protection from road splash . . . switches with long life . . . adequate conductivity . . . easy tracing of shorts in wiring harness.

Rpm gages, speedometer heads and drives, oil gages and sending units, air gages and temperatures with long life . . . located so the driver can check them quickly.

Transmission linkage and power-shift assists to give the driver more "feel" . . .

Clutches with simple linkage . . . simple adjustments . . . easy application for the driver.

In summary, balanced components with the same service life . . . to avoid repair and adjustment on individual units after each trip . . . so all can be worked together at time of major overhaul.

Factors in selecting a utility fleet vehicle

from C. C. Hudson

Assistant Chief

Transportation Branch

Tennessee Valley Authority

and from W. A. Rigg

Fleet Supervisor

and R. F. Jeide

Northern States Power Co.

IMPORTANT POINT in selecting vehicles for utility fleets is, how will it be used? It's a different operation than usual over-the-road utilization.

Discussion following combines the highlights

of two papers presented at the meeting highlighting the impact mileage, dependability, lube and cooling, gear and axle ratios, steering, power assists, accessories, road clearance, storage, standardization, engine power, vehicle life and drivers have on vehicle selection in utility fleets.

What are utility trucks?

Hudson: Vehicles for a public utility are work machines, not moving billboards and not even payload haulers. A utility truck is often only a mount for machinery or a portable warehouse for materials and tools used in construction and maintenance of water, gas, telephone, and electric-power systems. Ton mile costs mean little. Ruggedness, usable space, mobility off highways, and reliability mean much.

Rigg and Jeide: Greatest savings realized in our total operations are not reflected in actual transportation costs per mile, but mainly in the cost of the job or jobs to be accomplished. . . . Most utility vehicles can be classified as "tools"

(TURN TO PAGE 137, PLEASE)



Science Pavilion will center SAE Exposition. It will display latest advances

SAE goes world-wide in January...

International Congress and
Exposition has foreign guest speakers as "plus"
attractions on "Breakthroughs in 60's" program

WHAT'S AHEAD in the automotive engineering world? Plenty. And some 15,000 automotive and aeronautical engineers will discuss the future in detail next month.

- The place: Detroit's sparkling new Cobo Hall (site of the 1961 Auto Show, Sept., page 85).
- The time: January 9 to 13 inclusive.
- The occasion: International Congress and Exposition of the Society of Automotive Engineers.
- The theme: "Breakthroughs in the 60's." It shapes up to be quite a meeting. Program

highlights most likely to interest you fleetmen will be found further on in this report.

Engineers from around the world will attend. Foreign engineers will present more than 25 program papers. In all, there'll be 175 papers during the program's 73 sessions.

Between program sessions, engineers will be able to visit the 200,000 sq ft Exposition. It will have more than 500 displays by suppliers to the automotive and aircraft industries. At its center will be the Science Pavilion. This is a non-commercial display of the latest technical developments in automotive engineering. It will include the X-15 experimental airplane, wheel-

(TURN TO PAGE 141, PLEASE)

WHERE TO FIND IT...

For your convenience . . . a guide to the year's features, making it easy to locate articles for re-reading or putting to work

Articles are grouped under the headings usually used by fleets in subdividing the broad subject of fleet management . . . for further information, write the editors

CCJ'S

1960

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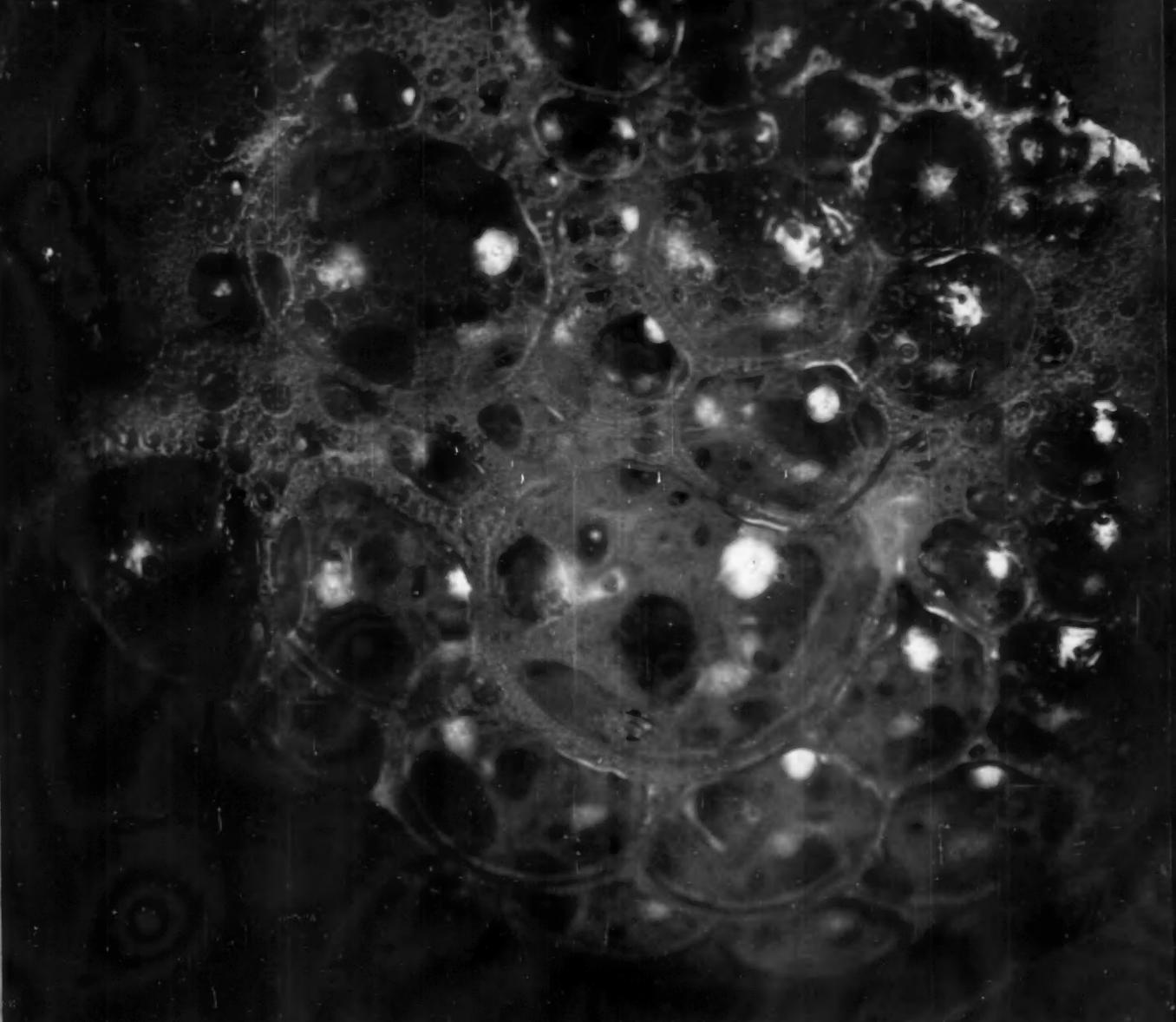
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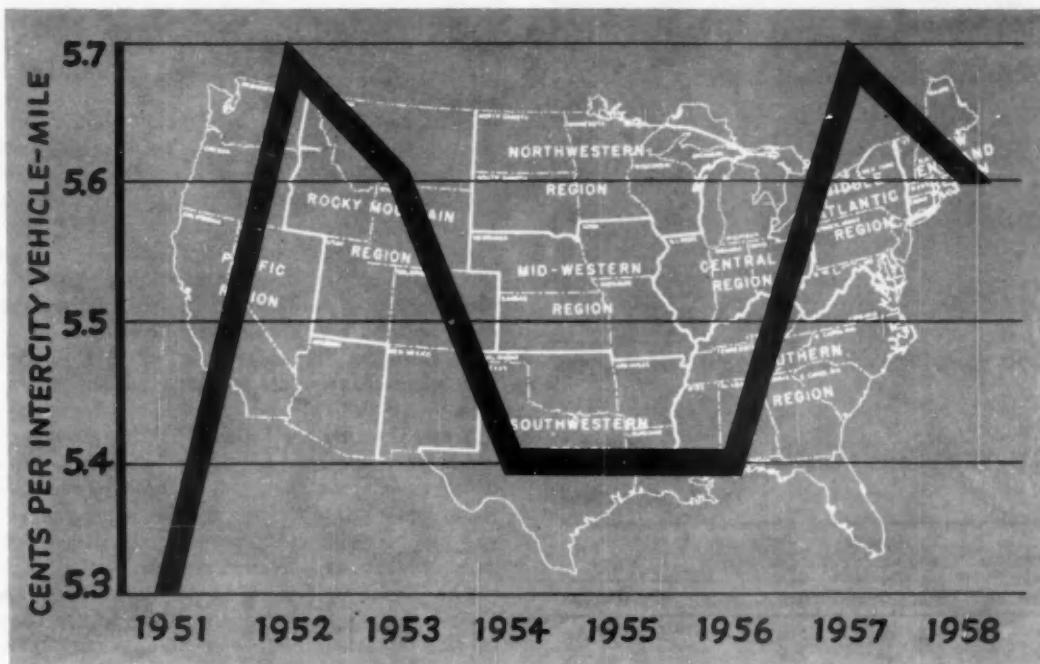
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PARTS AND
ACCESSORIES



LINE HAUL VEHICLE REPAIR AND SERVICING COSTS

Could it be less?

YES

You can cut
repair costs

Budd Co.-ATA Foundation study shows better fleets
repair and service vehicles for almost 1¢ per mile less than national average

CHART ABOVE shows what the ICC says it has been costing some 1200 Class I and II common carriers of general freight for repair and servicing of line haul vehicles.

Now here's a report that indicates a *good*

fleet can do it for almost 1¢ a mile less. This is no fly-by-night conclusion based on a superficial postcard survey.

Rather it is a considered conclusion stemming from data developed by American Trucking

Line haul vehicle repair and servicing costs

(in cents per intercity vehicle mile)

United States . . .

Average (range)			
Labor—2.2¢ (up to 5¢)			
Parts and supplies—2.4¢ (1 - 6¢)			
Total—4.7¢ (2 - 11¢)			

by average load . . .

Average load (tons)	Total repair and service		
	Total repair and service	Parts and supplies	Labor
Avg.	Avg. (range)	Avg. (range)	Avg. (range)
4 - 5.9	5.5	(4 - 7)	2.3 (1 - 3)
6 - 7.9	5.7	(4 - 7)	3.0 (2 - 3)
8 - 9.9	3.9	(2 - 7)	2.1 (1 - 4)
10 - 11.9	3.8	(2 - 11)	2.1 (1 - 6)
over 12	4.9	(3 - 11)	2.5 (1 - 6)

by length of haul . . .

Average haul (miles)	Total repair and service		
	Total repair and service	Parts and supplies	Labor
Avg.	Avg. (range)	Avg. (range)	Avg. (range)
0 - 100	7.3	(3 - 11)	4.0 (2 - 6)
100 - 400	5.1	(3 - 11)	2.7 (2 - 5)
400 - 800	4.4	(2 - 8)	2.2 (1 - 4)
over 800	4.3	(4 - 5)	2.2 (1 - 3)

. . . by regions (averages)

Assn.'s Research Dept. Base for the data was an in-depth, cross-section survey and careful evaluation of the answers by a trained research team.

ATA tells COMMERCIAL CAR JOURNAL it feels the answers to its survey came from better-than-average fleets. Implication in this is that the data reported here comes close to being a desirable yardstick for measuring whether or not your maintenance costs reflect an efficient operation.

While the carriers included in this study are larger than average, ATA says this has a "tendency to improve the study. These larger carriers, while not differing greatly in overall repair and servicing costs, nevertheless, have much more accurate and detailed records. . . ."

The Budd Co., working through the ATA Foundation, is financing the study to the tune of \$25,000. Research began in February 1958, and it's still going on. The king-size project is divided into three phases. . . .

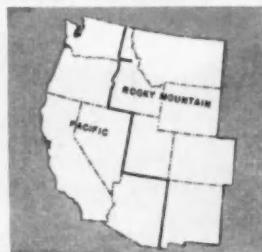
- First was a preliminary investigation of all Class I and II common carriers of general freight. Main purposes: To see how things stood and to provide direction for the in-depth research (Mar., page 134).

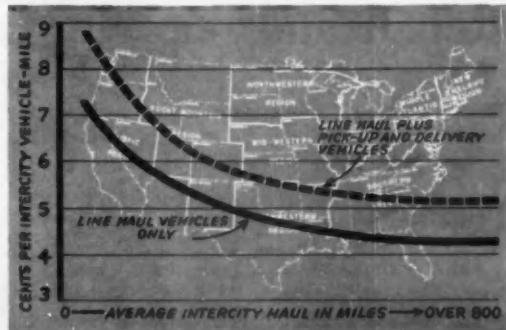
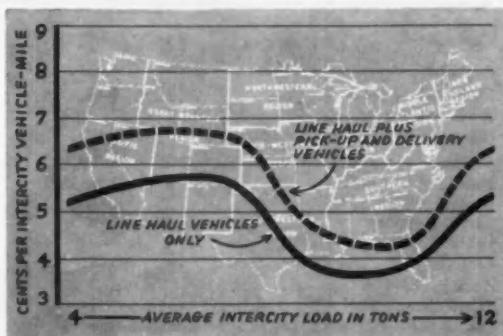
- Second was planned to help fleet managers answer two questions: (1) How do I know if my costs are out of line? (2) Where do I start to cut maintenance costs?

- Third phase will cover the frequency and costs of specific types of repairs.

Presented here is the first part of the second phase. ATA is still running the punch cards through its data processing equipment, and

Labor—2.8¢ (1-5¢)	Labor—2.4¢ (1-4¢)
Parts and supplies—2.9¢ (1-5¢)	Parts and supplies—1.4¢ (1-3¢)
Total—5.7¢ (2-5¢)	Total—3.8¢ (3-7¢)





Load has less effect on repair and servicing costs than length of haul does

there's more to come before data for the third phase is developed. Included in this first part of phase two are . . .

1. Repair and servicing costs per intercity-mile by average load and length of haul and by region.
2. Component and parts cost per mile.
3. Principal road failure causes.
4. Shop use, shop employees, shop size and shop equipment.

Costs presented here are based on those for the year 1959 measured against intercity vehicle-miles. This is the most convenient denominator for fleets with operation similar to those in the study—common carriers of general freight.

Are your costs out of line?

Now to dig-in on saving 1¢ a mile in repair and servicing costs.*

Fleets included in the study average 4.7¢ per per intercity mile for repair and servicing of line haul vehicles (as shown at left). Average

*As defined by the ICC Uniform System of Accounts, No. 4130.

for all Class I and II common carriers of general freight in 1958 was 5.6¢ per intercity mile—almost a full 1¢ a mile higher.

It doesn't take much figuring with a pencil to find out how much you'd save per year if you could cut your costs to meet the 4.7¢ average. That's the basic starting point, but it needs some modification.

Average load and haul

How can it be pinpointed closer to your operation? Average load affects your repair and servicing costs. Study shows that as it approaches 12 tons, costs drop and then start up again beyond 12 tons.

Not unexpectedly, the longer your average haul, the less is your repair and servicing cost. Reasons include such things as inspections made on a per-trip basis, service performed on a time rather than mileage basis, terminal area traffic.

Overall split between parts and supplies and labor costs is about as close as the popular vote for Kennedy and Nixon. Nationally, it divides

Labor—2.7¢ (up to 3¢)
Parts and supplies—2.9¢ (1.5¢)
Total—5.6¢ (2.9¢)



Labor—1.3¢ (1-2¢)
Parts and supplies—1.7¢ (1-3¢)
Total—3.0¢ (2-5¢)



Labor—2.2¢ (1-4¢)
Parts and supplies—2.5¢ (1-6¢)
Total—4.7¢ (3-11¢)



Labor—3.0¢ (2-5¢)
Parts and supplies—3.3¢ (2-6¢)
Total—6.3¢ (3-11¢)



Repair and servicing

51 per cent for parts & supplies, 49 per cent for labor. Length of haul or average load do not seem to affect this proportion significantly.

Regional impact

On a regional basis, the 51-49 split also holds generally true—except in the Southwestern region. Here about twice as much is spent for labor as for parts & supplies. A strong hint at least that if you have an extremely long haul—as do many Southwestern intercity fleets—you might expect a higher labor than parts & supplies cost.

You also can come closer to pinpointing an

Repair and servicing costs for all revenue vehicles (PU&D plus line haul) expressed in cents per intercity vehicle mile . . .

United States . . .

$$\text{Labor + Repair & Service} = \text{Total}$$

$$2.8\text{¢ (1-6¢)} + 2.9\text{¢ (1-7¢)} = 5.6\text{¢ (3-12¢)}$$

by average load . . .

Average load (tons)	Total repair and service		Parts and supplies		Labor	
	Avg. (range)		Avg. (range)		Avg. (range)	
4 - 5.9	6.7	(4 - 8)	2.7	(2 - 3)	4.0	(3 - 5)
6 - 7.9	6.7	(5 - 8)	3.5	(3 - 4)	3.2	(2 - 4)
8 - 9.9	4.7	(3 - 9)	2.5	(1 - 4)	2.3	(1 - 5)
10 - 11.9	4.4	(3 - 11)	2.4	(1 - 6)	2.0	(1 - 5)
over 12	6.0	(3 - 12)	3.0	(1 - 7)	3.0	(1 - 6)

by length of haul . . .

Average haul (miles)	Total repair and service		Parts and supplies		Labor	
	Avg. (range)		Avg. (range)		Avg. (range)	
0 - 100	8.8	(3 - 12)	4.8	(2 - 7)	4.1	(1 - 5)
100 - 400	6.3	(4 - 9)	3.3	(2 - 6)	3.0	(2 - 6)
400 - 800	5.3	(3 - 9)	2.6	(1 - 5)	2.7	(1 - 5)
over 800	5.1	(4 - 6)	2.7	(2 - 3)	2.5	(1 - 4)

Component	Rank	Cost*
Engine	1	0.40*
Electrical systems	2	0.14
Transmission	3	0.14
Differential	4	0.12
Clutch	5	0.10
Body and chassis	6	0.08
Brakes	7	0.08
Cooling system	8	0.08
Lubricating system	9	0.08
Fuel system	10	0.07
Accessories	11	0.03
Wheels and rims	12	0.03
Drive shafts and universal's	13	0.02
Rear axles	14	0.02
Steering system	15	0.02

*Total (labor plus parts and supplies) costs in cents per intercity mile for line haul and PU&D vehicles. For example, average total repair and servicing costs for engines comes to 4/10ths of a cent per intercity mile.

Component costs per mile

efficient yardstick to measure your line haul vehicle repair and servicing cost by taking into consideration the regional picture—along with average load and length of haul.

Geography does seem to make a significant difference. Costs are lower where the land stays relatively flat—Southern and Southwestern regions. Significantly lower labor costs per mile also affect the picture in the Southern region.

Climate, too, makes a difference. For example, Northwestern and Midwestern terrain isn't too far different from the south . . . but repair and servicing costs for line haul vehicles in these regions where the climate is colder and winter snows heavier are well above the areas where Mother Nature takes it easier.

Unfavorable climate and rugged terrain show their impact on Rocky Mountain and Pacific regional costs.

In the Central Region, climate and shorter hauls are factors affecting repair and servicing costs. Highest cost area includes the New England and Middle Atlantic Regions where three adverse factors—climate, terrain and short hauls—are encountered.

In brief: When setting a repair and servicing yardstick for your fleet, be sure to take into consideration where your trucks operate, the load they haul and how far they go.

Line haul plus PU & D

Up to this point we have been considering only line haul vehicles (ICC Account No. 4131).



How the dollar you spend on parts and supplies is divided

Adding-in pick-up and delivery vehicles (ICC Account No. 4135) and comparing the total to intercity vehicle miles doesn't make a significant change in the trends noted above for line haul vehicles only (see graphs at top of page SR3).

For example, repair and servicing costs for line haul plus PU&D vehicles per intercity vehicle-mile for the carriers included in the study come to 5.6¢. Average for all Class I and II carriers is estimated at 6.2¢. This again underlines the value of the figures resulting from this study as reasonable cost-cutting goals.

Adding-in PU&D vehicles increases repair and servicing costs per intercity vehicle-mile by nine-tenths of a cent (5.6 - 4.7 - 0.9). ATA says the cost split between line haul and PU&D vehicles comes to 83 per cent for line haul, 17 per cent for PU&D.

You can, using the data presented in the charts on this and the previous pages together with the cost divisions presented here, establish reasonable goals to help in cutting repair and servicing costs of PU&D vehicles.

Parts and component costs

Zeroing-in still further, the charts above show where your money goes by principal parts and components. Chart on left hand page lists—in order of highest down to lowest cost—the total (parts & supplies and labor) repair and servicing cost for all revenue vehicles (line haul plus PU&D).

Highest cost is for engine repair and servicing

(not including components shown in the table separately). It comes to 4/10ths of a cent per intercity mile. Next, but showing a sharp drop, are electrical systems and transmissions with a cost of 14/100ths of a cent per mile.

Not shown, since it's not a repair and servicing item, is the 0.57¢ per intercity mile cost for tires and tubes (ICC Account No. 4160). This figure is also for both line haul and PU&D vehicles combined.

Where your dollar goes

Chart directly above uses the same list of major parts and components to show how the dollar you spend for parts and supplies is divided. Again, the engine takes the biggest bite—26.7¢. And again, there's a sharp drop between its cost and those for the balance of the items.

You'll notice that the sequence from highest to lowest cost in both charts is not basically different. Possible significance is that there's little advantage in tackling either parts and supplies or labor costs separately. You'll have to work on both with equal emphasis to bring down your per-mile parts and component costs.

This conclusion is enforced by the almost 50-50 split between labor and parts and supplies costs noted earlier. So, unless you're in a region where there's marked difference, both deserve equal attention.

ATA points out that this part of the study includes both gasoline and diesel engines . . .

Road failure causes

(listed in order most often cited)

by regions ► ► ►

United States

► ► ►

Electrical system (82.0) Tires and tubes (65.6) Engine (60.7) Fuel system (42.6) Cooling system (26.2) Brakes (18.0) Clutch (18.0) Differential (18.0) Transmission (18.0) Rear axles (8.2) Wheels and rims (8.2) Accessories (4.9) Drive shaft and universals (4.9) Steering system (1.6)	Electrical system (72.7) Fuel system (63.6) Engine (54.5) Transmission (36.4) Differential (27.3) Clutch (9.1) Drive shaft and universals (9.1) Steering system (9.1) Tires and tubes (9.1) Wheels and rims (9.1)	Tires and tubes (100.0) Fuel system (71.4) Cooling system (57.1) Electrical system (57.1) Engine (57.1) Accessories (14.3) Clutch (14.3)
---	--	--

Among carriers reporting road failures a problem,

with two "parts" gasoline and one "part" diesel. The researchers are working to see if they can develop significant cost figures for each.

One question asked in ATA's survey was, "Are road failures a problem in your operation?" Most fleets said, "Yes"—43 per cent to be exact. More than a third, 36 per cent, said, "No." Some



Electrical system (72.7) Fuel system (63.6) Engine (54.5) Transmission (36.4) Differential (27.3) Clutch (9.1) Drive shaft and universals (9.1) Steering system (9.1) Tires and tubes (9.1) Wheels and rims (9.1)
--

Electrical system (72.7) Fuel system (63.6) Engine (54.5) Transmission (36.4) Differential (27.3) Clutch (9.1) Drive shaft and universals (9.1) Steering system (9.1) Tires and tubes (9.1) Wheels and rims (9.1)
--

expressed no opinion—21 per cent. Significant fact: Among the carriers who felt they had a road failure problem, average repair and servicing cost was 4.7¢ per intercity mile for line haul vehicles. Those who said they had no road failure problem average 4.3¢.

Road failure causes as charted above include both line haul and PU&D vehicles. Percentages reflect the number of times each cause was given by the carriers in the survey who listed their road failure causes.

Shop efficiency

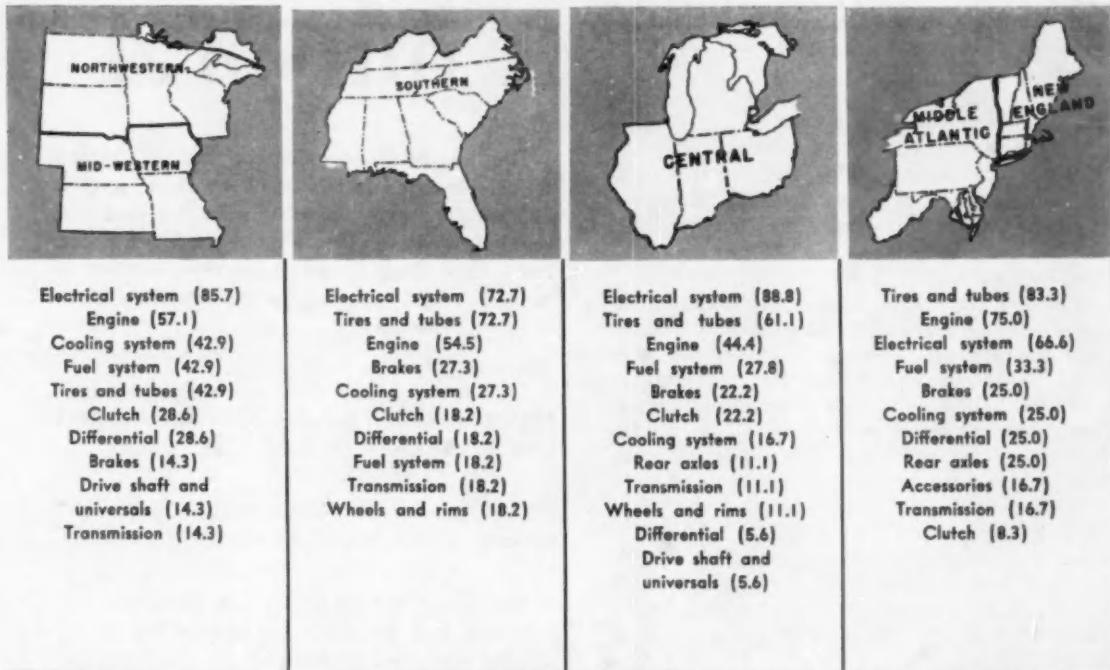
Fleets report: Where work is done . . . Labor/parts & supplies cost split . . .

DISTRIBUTION OF REPAIR AND SERVICING COSTS BY TYPE OF SHOP

Type of shop	Direct repair and servicing expense	Parts and supplies	Labor
Fleet Shop	57.8%	57.3%	55.9%
Terminal facility	24.5	21.6	30.0
Outside	17.7	21.1	14.1
Total	100.0	100.0	100.0

DIVISION OF REPAIR AND SERVICING COSTS BETWEEN MATERIALS AND LABOR

Item	Fleet shop	Terminal facility	Outside	Total
Parts and supplies	51.6%	42.9%	60.9%	50.9%
Labor	48.4	57.1	39.1	49.1
Total	100.0	100.0	100.0	100.0



electrical and tire and tube troubles were most often given as the cause

Depending on where you operate, the regional listings above will help you know where to concentrate efforts in cutting road failures. And a move in this direction could be the forerunner of a cut in your repair costs.

This study indicates that road failures are only a partial yardstick in measuring *under/over-maintenance*. More attention needs to be given other characteristics of your *specific operation* (costs, service, safety) in determining if you're doing too much or too little maintenance.

Charts along the bottom of these pages provide a guide in answering the question, "How efficient are my shop operations?" Chart at far left shows that 82.3 per cent of repair and servicing is done in a fleet-owned shop—57.8 per cent at a base shop and 24.5 per cent at a terminal facility.

As might be expected, parts and supplies represent the lesser share of total repair and servicing costs as compared to labor's share at terminal facilities. Most likely reason is that terminal

How many shop employees it takes . . . How much space . . . Major equipment

Type of employee	AVERAGE NUMBER UNITS SERVICED PER SHOP EMPLOYEE				
			All power units	Trailers	All units
	Trucks	Tractors			
Supervisory	14.8	38.7	53.6	77.4	131.1
Clerical	18.2	47.3	65.4	94.5	160.0
Mechanical (including working foremen)	1.3	3.3	4.6	6.7	11.3
Total	1.1	2.9	4.0	5.8	9.8

Type of equipment	SQUARE FEET OF ENCLOSED SHOP SPACE PER VEHICLE		Type of equipment	MAJOR TYPES OF SHOP EQUIPMENT	
	Type of equipment	Square feet per unit		Per cent of fleets reporting as having	
Trucks		411	Dynamometer (engine)	30.3%	
Tractors		158	Dynamometer (chassis)	36.4	
All power units		114	Tire recapping equipment	18.2	
Trailers		80	Other	59.1	
All units		47			

maintenance is usually minor repair until the vehicle can be sent to the base shop for major work.

More significant perhaps is the larger share of your dollar claimed by parts and supplies when the work is done in an "outside" shop . . . 60.9 per cent as compared to 51.6 per cent when the work is done in your base shop. While not conclusive, there's a strong hint here that you can cut your parts and supplies cost by operating your own shop.

Fleets in the survey, says ATA, "almost without exception, maintained their line haul vehicles in a central shop or shops. . . ." On the other hand, PU&D vehicles are serviced by terminal-based mechanics, by roving mechanics from the fleet's base shop, by bringing vehicles to the base shop or by contract with local garages. And most fleets use more than one of these choices.

When it comes to vehicles per shop employee, the fleets in the survey report a ratio of 9.8 to 1, based on 1959 operations. Interesting note: This is almost two more vehicles per employee than in an earlier COMMERCIAL CAR JOURNAL study (May '56, page 72) based on 1955 data showing an 8 to 1 ratio.

In fact, all classes of employees handled more vehicles in 1959, says the survey, when compared to the 1955 data. Here's the comparison based on a Number of Vehicles to One Employee ratio. . . .

	1955	1959
Supervisory	119-1	131-1
Mechanic and service . . .	9-1	11-1
Clerical	94-1	160-1

Chart on the previous page gives the breakdown for these employee classifications by trucks, tractors, total power units and trailers. You can use them to measure the size of your work force . . . with an eye to setting-up an efficient ratio.

Same approach applies to making use of the chart showing shop space per vehicle. Not all fleets in the survey answered this question, but among those who did (representing 6028 trucks, 15,669 tractors, 31,089 trailers), the average comes to 47 sq ft of enclosed space per vehicle. Chart also shows the sq-ft ratio per trailer, per tractor, per truck and per power unit.

When it comes to major types of shop equipment, over one-third of the reporting fleets say they have a chassis dynamometer, almost a third have an engine dynamometer and 18.2 per cent reported having tire recapping equipment.

There's more to come on this subject. Says ATA, "Analysis of this data has not been completed."

1 out of 4

The 66 fleets—common carriers of general freight—included in this study represent, in gross operating revenue, intercity miles traveled and repair & servicing costs, a good one-fourth of the total 1209 Class I and II common carriers of general freight reporting to the Interstate Commerce Commission.

- They report annual gross operating revenue of \$808,900,000—25.9 per cent of the \$3,126,676,126 total for all 1209.
- They travel 1,048,972,000 miles a year—25.2 per cent of the 4,162,218,671-mile total for all 1209.
- They spend \$59,088,575 a year for vehicle repair and servicing—27.2 per cent of the \$217,056,256 repair and servicing bill paid by the 1209.
- They represent a total fleet of 57,270 vehicles, divided as follows. . . .

Type	Line haul	Pick-up and delivery	Total
Straight trucks	894	5,008	6,800
Truck tractors	12,151	4,778	16,927
Total power units	13,045	10,382	23,427
Trailers and semi-trailers	29,432	4,411	33,843
Total all vehicles	42,477	14,793	57,270

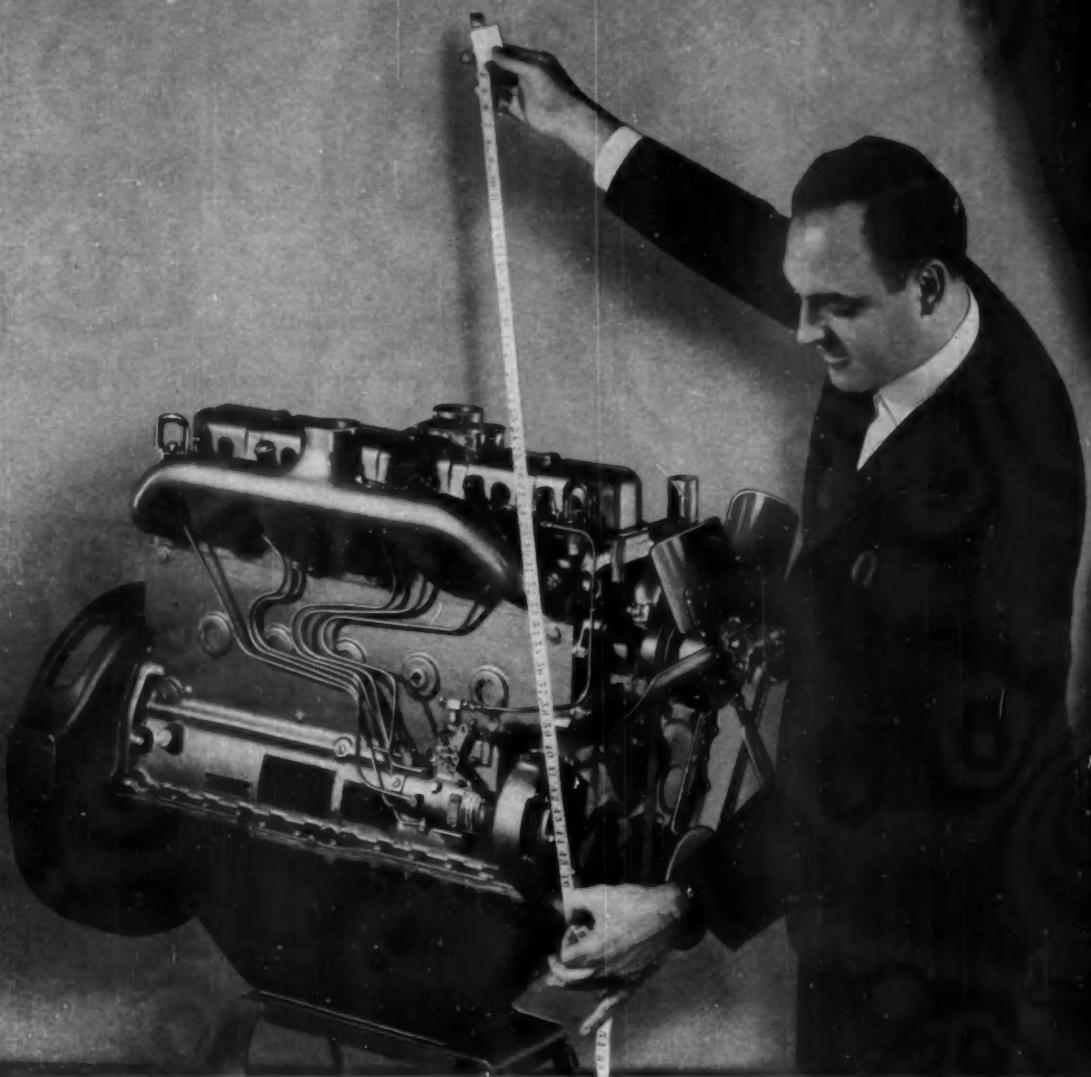
- They report the following distribution when it comes to average haul and load. . . .

Average haul (miles)	Per cent	Average load (tons)	Per cent
0 - 100	9.1%	4 - 5.9	6.1%
100 - 400	56.0	6 - 7.9	7.0
400 - 800	26.8	8 - 9.9	12.1
over 800	6.1	10 - 11.9	19.7
		over 12	84.5
Total	100.0	Total	100.0

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in trucks and tractors

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Compact-design tractor now offered by International Harvester Co., Chicago, is designated the Model No. BC-1895. The new unit features a 197-hp V-8 gasoline engine. It's rated up to 55,000 lb GCW. The 4-wheel tractor has bumper-to-back-of-cab dimension of 89½ in. Standard equipment includes an oversize 5-speed transmission, 2-speed 23,000-lb rear axle and 9000-lb front axle. Maker says this model is particularly adaptable for fleets which accumulate up to 70,000 miles per truck annually. It can also be used for shuttle and city pickup operations. Available wheelbases are 137, 149 and 167 in.

More details? Circle 374 on reply card inside back cover



Short wheelbase power units for mobile home haulaway have diesel engines. The Trailer Toter Division of Whatoff Motor Co., Ames, Iowa, has just announced the availability of diesel power in standard-make trucks which they adapt to the use of truckers engaged in the transportation of mobile homes. In adapting the units to this type of operation, the company modifies the truck frame to permit telescoping of the vehicle to meet various length requirements. Trucks are converted into various wheelbase units which adjust to three lengths ranging from eight to 13 ft. Diesel power is provided with 4-cyl GMC diesel truck engines.

More details? Circle 375 on reply card inside back cover



Compact mobile office is the new Mercedes-Benz Executive Coach now available on special order from Studebaker-Packard Corp. Fleet executives will find that the unit meets requirements for business trips—especially for travel into remote areas by construction men. S-P says the compact coach provides accommodations for office work, business conferences and entertaining plus living sleeping quarters. Cooking and rest room facilities are included as well as water storage and a generator for electricity. Powered by a 4-cyl, 74-hp, OHV engine, the coach is on a 112-in. wheelbase with overall length of 190 in.

More details? Circle 376 on reply card inside back cover

Medium and heavy-duty trucks are offered in the 1961 Transtar series from Studebaker-Packard Corp. Medium-duty units include 1-ton and 1½-to-2-ton models with GVW ratings up to 10,000 and 18,000 lb, respectively. Both have 259-cu in. engines and 4-speed transmissions. Wheelbases range from 131 in. to 171 in., bodies from nine to 14 ft. Two-ton heavy-duty models rated up to 23,000 lb GVW are powered by 289-cu in. engines with 4-speed transmissions. Wheelbases range from 131 to 195 in., body lengths from nine to 14 ft. The 195-in. chassis takes an 18-ft body. All models are available as chassis-cab units or with platform or stake bodies.

More details? Circle 377 on reply card inside back cover



in truck bodies

LP Gas delivery truck now available from Trinity Steel Co., Dallas, Texas, is a single-barrel tank and integral chassis type unit with 6000-water gal capacity. The steel tank is of typical "blimp" construction. Inside, it's 84 in. in diameter and 280 in. long. Mounted on an International Harvester modified chassis, the unit carries loaded weight of about 11,056 lb on the front axle and 33,516 lb on tandem rear axles. For service to both industrial and domestic users, the delivery unit carries three sizes of discharge hose. It's built according to ICC specifications and ASME code for unfired pressure vessels.

More details? Circle 378 on reply card inside back cover



Walk-in delivery body is the new lightweight aluminum Olsonette from J. B. E. Olson Corp., Garden City, N. Y. The unit is said to carry nearly a ton of payload on a ½-ton, 96-in. wheelbase, forward control chassis without exceeding rated capacities of tires, axles and springs. The extra payload is possible because the all-aluminum body weighs only about one-third as much as similar steel units. The Olsonette's loadspace is 66½ in. high, 74 in. wide and 84½ in. long on the 96-in. wheelbase. An 8-ft-long loadspace is available in a new body on a 102-in. wheelbase, ½-ton chassis.

Besides saving deadweight, it is claimed that the Olsonette bodies will last indefinitely with reasonable care, due to the resistance of aluminum to rust and corrosion.

More details? Circle 379 on reply card inside back cover



5 EMPLOYEE EFFECTIVENESS . .



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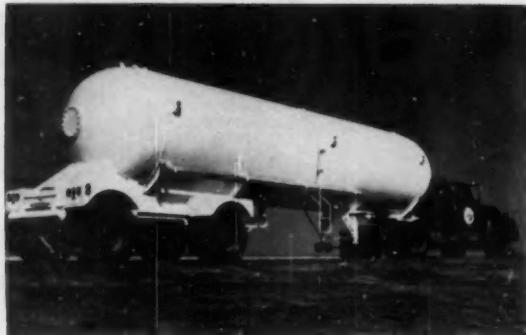
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in trailers

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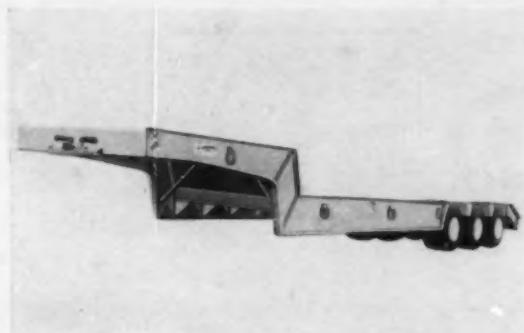


LP gas transport trailer is claimed by its maker to be one of the largest of its kind in operation in the U. S. Called the "Big T," the tank was manufactured by Delta Tank Mfg. Co., Baton Rouge, La. The unit, which weighs 21,900 lb empty, has a capacity of 11,550 water gal and a payload—net L P gas gallonage—of 10,048 at 87 per cent full.

The monstrous transport measures 49½ ft in overall length with a 90-in. overall diameter. It's mounted on a 9-ft, 1-in. spread tandem.

Made of 115,000-psi tensile steel, the tank is said to have a 250-lb working pressure.

More details? Circle 380 on reply card inside back cover



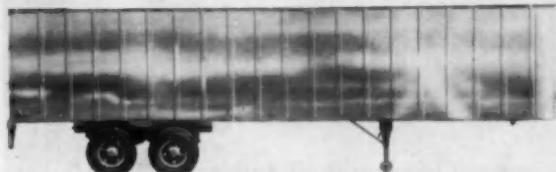
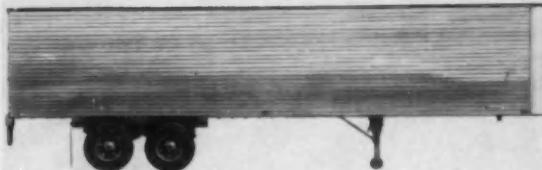
40-ton lowbed trailer from Spencer-Safford Loadcraft, Augusta, Kan., is designated the Model No. M3-908-SLB. It's said to provide bigger payloads due to the use of high-tensile steel in its construction. The three-axle carrier is claimed to be 3500 lb lighter than similar units previously produced by the company. To maintain strength, despite lighter weight, design improvements have been made in the trailer. The longitudinal frame has been eliminated and all weight has been shifted to the outside frame rails. The unit is 96 in. wide with platform length of 36 ft, 10½ in. Other sizes are available on special order.

More details? Circle 381 on reply card inside back cover



Liquid ethylene oxide transport trailer is said to meet requirements of the Processing/Petrochemical industries and the ICC for over-the-road hauling of quick-vaporizing explosive fluids. The new unit from Trinity Steel Co., Dallas, Texas, brings more flexibility, safety, economy and convenience to ethylene oxide transport. (The substance was previously carried only in special railway tank cars.) The tank consists of an inner steel shell completely insulated and protected by a stainless-steel outer shell. Its design incorporates safety precautions against damage or leaks in the transport of highly flammable liquids.

More details? Circle 382 on reply card inside back cover



Highway Trailer models are all new for 1961

HIghway TRAILER Industries, Inc., New York City, recently introduced its 1961 trailer line called the "Highway 66" series. The company says the line is completely new and incorporates 66 advanced design features. Among them are:

- Wide spread tandem to take the load directly from the sidewalls.
- Wide mount landing gear for extra heavy capacity.
- Plastic-covered external wiring directly under edge of the roof.
- Flush rear with recessed lighting, door hinges and locking bar and weathertight door seal.
- High-cube design with full 93 in. wide and 97 in. high inside dimensions.
- Modular design to permit sup-

For further details on Highway's 1961 trailer line, circle 383 on free reply card inside back cover

ply of trailer in any standard length as required.

- Standardization of parts to permit interchangeability of components.

"Highway 66" trailers are constructed of all-aluminum, all-steel or any combination of aluminum and steel. They're offered in a full line of smooth side (upper left photo), exterior post (upper right), open top and refrigerator models.

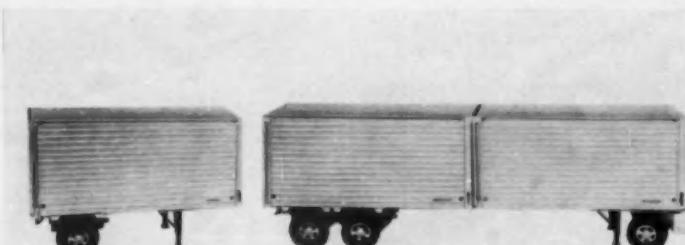
Cargo containers

Highway has also developed a new cargo container system (lower left).

It provides standardized 20-ft containers with "tandematic" detachable bogies. They can be used individually as city delivery units, coupled together to form 40-ft over-the-road units or loaded without wheels on ship flatcar.

Experimental model

The "Trailer of Tomorrow" (lower right) is a plastic-skinned experimental model developed jointly by Highway Trailer and Union Carbide Plastics Co. One-piece top and side panels are of reinforced fiber glass with any desired color molded-in. The top is translucent, illuminates the entire length and width of the trailer interior. The plastic panels are bonded to structural members, thus reduce the number of rivets and other fasteners.



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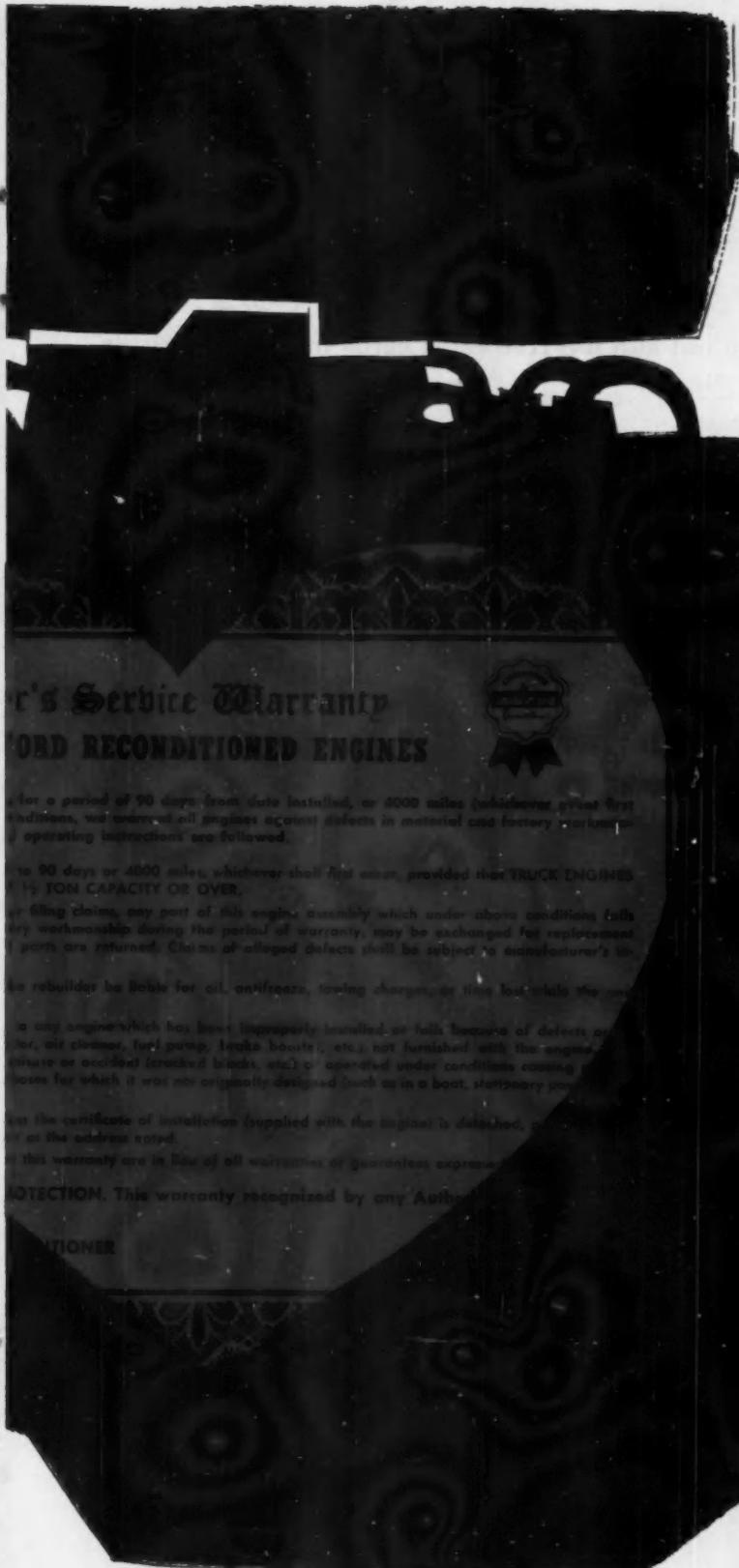
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1/2 TON CAPACITY OR OVER.

or filing claims, any part of this engine assembly which under above conditions fails by workmanship during the period of warranty, may be exchanged for replacement parts are returned. Claims of alleged defects shall be subject to manufacturer's inspection and be rebuildable for oil, antifreeze, lowing charges, or time lost while the engine is in our shop.

to any engine which has been improperly installed or fails because of defects in the engine, or in any part of the engine assembly, such as, carburetor, oil cleaner, fuel pump, brake booster, etc., not furnished with the engine, or accident damaged parts, and/or operated under conditions causing damage to the engine, or used for purposes for which it was not originally designed (such as in a boat, stationary power plant, etc.).

for the certificate of installation (supplied with the engine) is detached, punched, or otherwise altered, or the address noted.

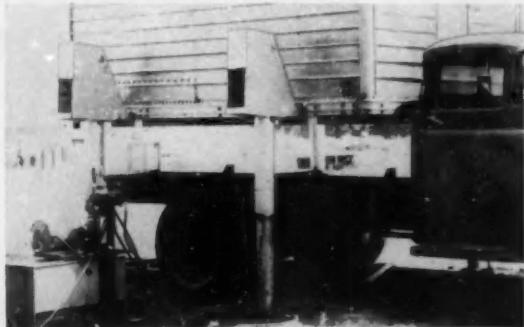
or this warranty are in lieu of all warranties or guarantees expressed or implied.

NOTIFICATION. This warranty recognized by any Authorized Reconditioner.



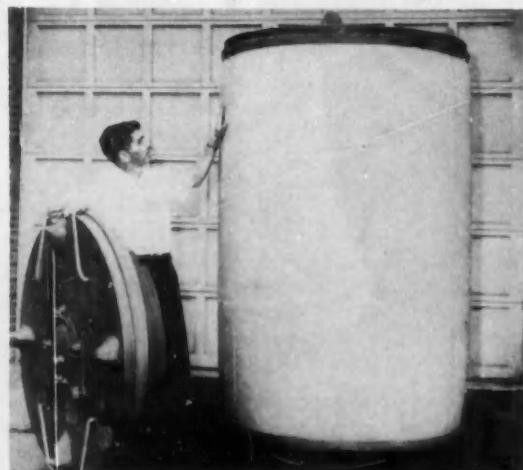
in cargo handling

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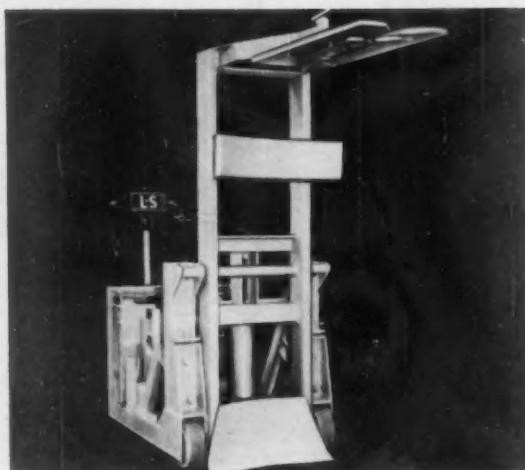
Truck-to-truck transfer system from Stanray Corp., Chicago, consists of four hydraulically-operated lift posts. It's adaptable to any size container, can be handled by one man. More details? Circle 384 on reply card inside back cover

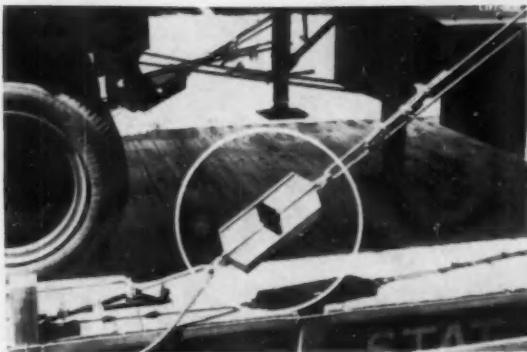
Collapsible plastic container for dry or liquid bulk products has disposable liners. Flexi-Drum from Highway Trailer Co., N. Y. C., holds 800 gal (at right), folds to 12 in. (left). More details? Circle 386 on reply card inside back cover



Heavy duty fork lift with gasoline or diesel power is the Series 4000 from Ford Motor Co., Birmingham, Mich. It's offered in models to suit all types of materials handling. More details? Circle 385 on reply card inside back cover

Electric truck for heavy rolled goods is the "Jacklift" from Lewis Sheppard, Watertown, Mass. Rolls are carried horizontally—give operator clear view, can be fed directly to machines. More details? Circle 387 on reply card inside back cover





Elastic tie-down protects cargo from vibration or shock damage in piggyback shipment. The "Tylastic" tie-downs are attached at or near the four corners of the container and to the stake pockets on the flatcar. Lord Mfg. Co., Erie, Pa., uses special "sandwich-type" elastomeric springs to make the tie-down. Bonded rubber is used to absorb impact and to permit the container to "roll with the punch."

More details? Circle 388 on reply card inside back cover



Heavy duty moving van ramp provides ground-to-van access for loading and unloading large appliances, machinery and other heavy items. Constructed of magnesium, the ramp is said to have up to 4000-lb capacity. It's made by Magline, Inc., Pineconning, Mich., in 48 standard models. Ramp widths are 40, 46, and 52 in. in lengths from seven to 14 ft. There's a choice of tread or smooth plate deck surface. Other styles and features are also offered.

More details? Circle 389 on reply card inside back cover

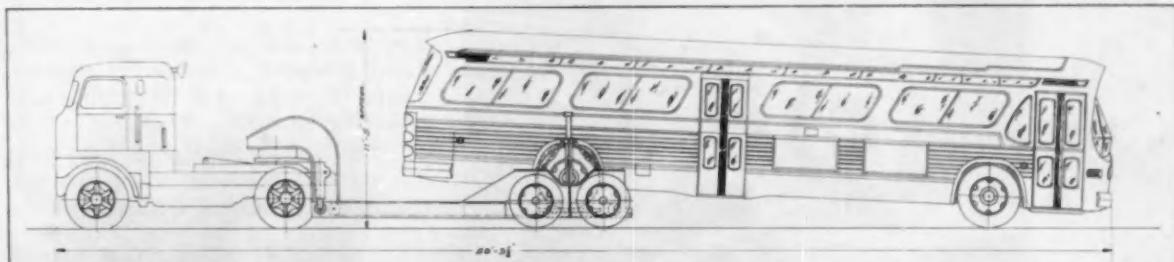
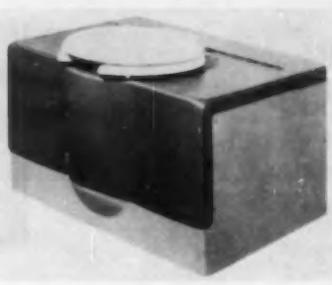


in bus equipment

Bus towing rig is said to tow disabled buses safely (below) without use of tow bar or chains connected to the body of the bus. It's called the "Lift 'n Lug" tow rig by George Frey Associates, Philadelphia. A gooseneck, lowbed semi-trailer is equipped to do the towing. Either front or rear wheel and axle assembly of the bus is lowered onto the rig and locked in place.

More details? Circle 390 on reply card

Flush-type toilet named Bus-Lav is a new self-contained automatic unit for modern highway buses. All working parts are within the thermoplastic shroud (shown at right). Portable or permanent installations are possible, with no expensive plumbing needed for operation. Units are tailored to vehicle requirements by Koehler Aircraft Products Co., Dayton, Ohio.



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Champion Service Engineer Larry Koles (l) and Jack Dziersen, Central Shop Foreman of New York's Terminal System, Inc., check out ignition on one of the fleet's 300 taxis.



SPECIFIC ENGINE DESIGN

There's a Champion spark plug specifically designed to meet the requirements of *every* make of engine and operating condition. That's why you get maximum performance, long plug life and top economy when you use Champions in all your engines.

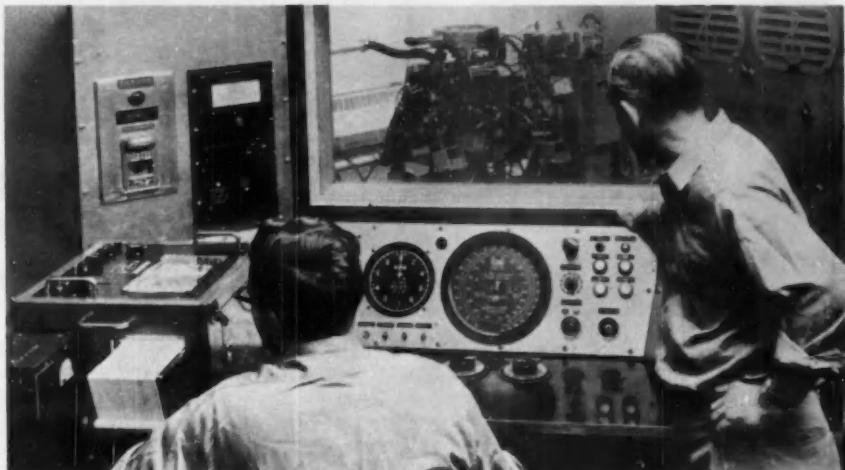


ANTI-FOULING PLUG TYPES

Stop-and-go driving and continued idling often cause excessive plug fouling. If your fleet has this problem, Champion's *auxiliary-gap plug types* can help solve it. Auxiliary-gap Champions resist fouling, cut "downtime" by requiring fewer cleanings.

RESEARCH AND PRODUCT DEVELOPMENT

In modern research laboratories, Champion engineers use specially designed engines to test plugs under conditions much more severe than any found in actual use. In this way, Champion helps you get better engine performance with lower operating costs.



CHAMPION

Service Tips for better engine performance

LOW COMPRESSION—VALVES OR RINGS?

Low compression readings are an indication of either valve or ring trouble, and here's an easy way to tell which. When low readings show up on the gauge, squirt about a teaspoonful of heavy oil into the combustion chambers of the affected cylinders. Then crank the engine several times to distribute the oil.

Repeat the compression test. If rings are the trouble, there will be a marked increase in compression because the oil will temporarily seal leakage past the rings. If approximately the same readings result, the rings are O.K. and the valves are leaking.

Another tip: If, during the test, the pressure remains the same for the first several strokes, but then climbs higher during succeeding strokes, a sticky valve may be causing the trouble.



DEPENDABLE

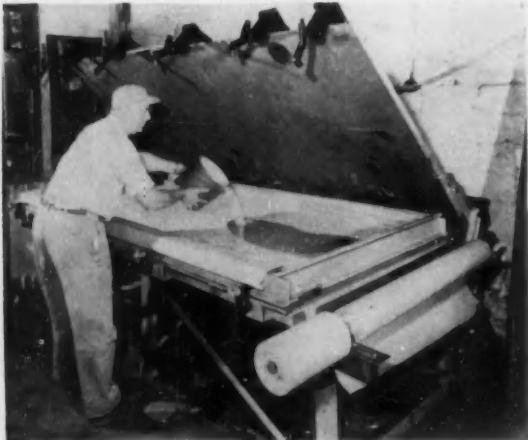
CHAMPION
SPARK PLUGS

CHAMPION SPARK PLUG COMPANY • TOLEDO 1, OHIO



in vehicle accessories and supplies

It's easy to get more details about the items described.
Just fold out and use free reply cards inside back cover

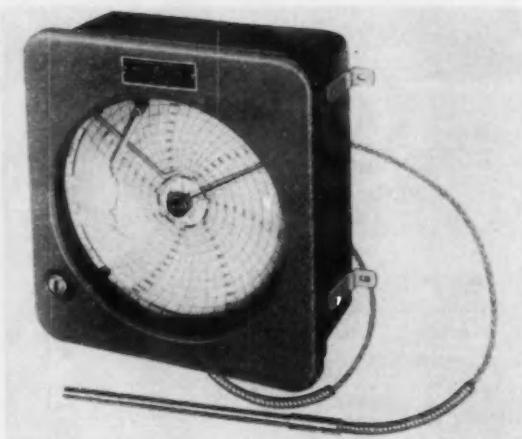
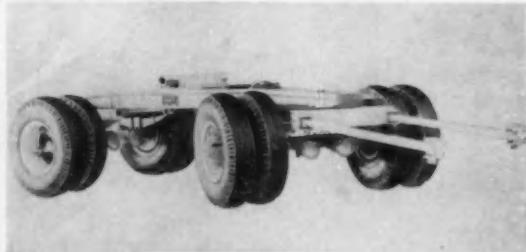


Reefer insulation called
Nopco Lockfoam can be poured into place as a liquid mixture (as shown here) where it foams in place to completely fill and seal the area. The urethane plastic foam is made by Nopco Chemical Co., North Arlington, N. J. It weights 2 lb per cu ft—is water and moisture proof. K factor of Lockfoam is 0.13.

More details? Circle 340 on reply card inside back cover

Self-steering semi-trailer tandem
from Youngstown Steel Car Corp. has been redesigned to cut weight 450 lb. Called the Hoobler wide spread, it's for use with any trailer longer than 28 ft—on or off-highway. Both axles are mounted to an "A" frame which is connected to the trailer with a hinged fifth wheel. Steering tongues connect to the trailer bed.

More details? Circle 342 on reply card inside back cover



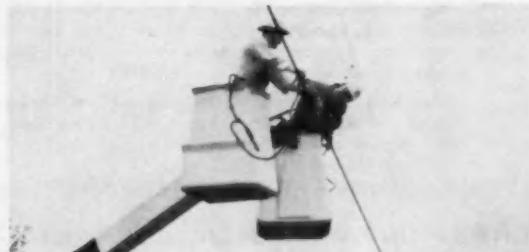
Transistorized recording thermometer
is a self-contained battery-powered unit made by the Electric Autolite Co. It has a recording range from -40 deg F to 550 deg F and can accommodate all standard charts. It uses a conventional stylus but has a transistor oscillator for electric writing on carbon-backed Teledeltos paper. No ink is used.

More details? Circle 341 on reply card inside back cover

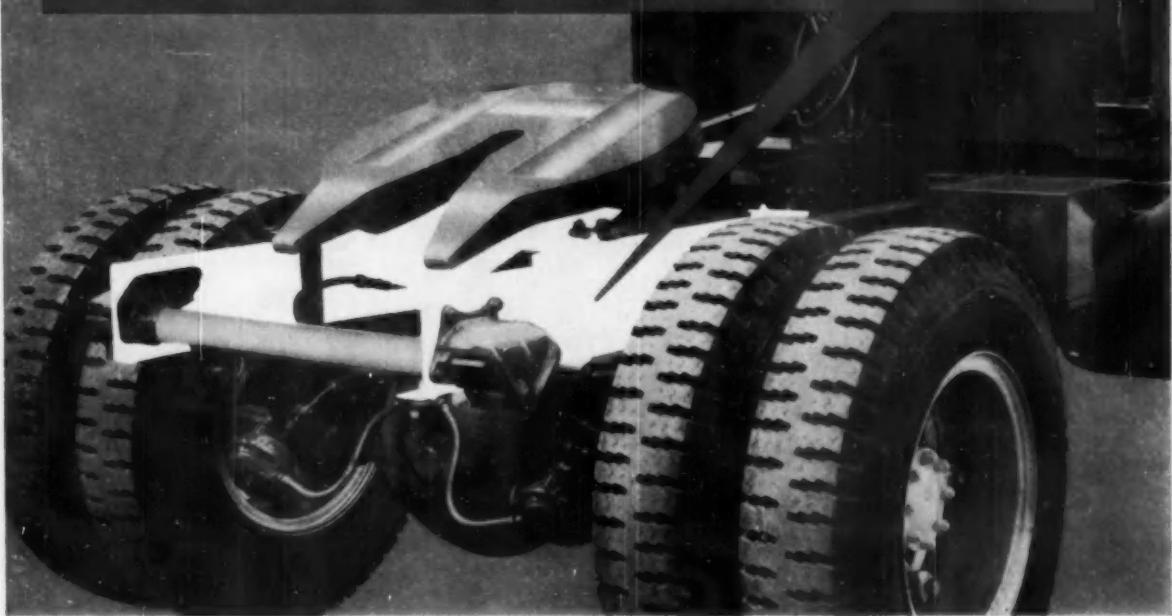
TURN PAGE, THERE'S MORE

A new "hot-line" handling system
of interest to public utility fleets has been developed by American Electric Power Corp., New York. It permits linemen to work high-voltage lines bare-handed. They work from a truck-mounted insulated aerial boom. The bucket is charged with line voltage permitting them to work uncluttered yet safely protected.

More details? Circle 343 on reply card inside back cover



What kind of 5th Wheel mounting do you need?



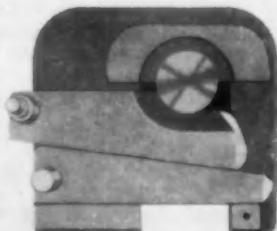
Fontaine **NO-SLACK®** Fifth Wheels give you 89 models to choose from!

Only Fontaine's years of experience in Fifth Wheel design and application can give you exactly the type of mounting you need for any truck, any kind of hauling. There are 89 Fontaine No-SLACK Fifth Wheel models available; they include sliding wheels, jockey mounts, universal wheels . . . and many others. A Fontaine Fifth Wheel specialist will be glad to advise you on the best fifth wheel mountings to use in your fleet . . . even special mountings can be designed if you need them. Contact Fontaine first for Fifth Wheel experi-

ence, and for the famous NO-SLACK Fifth Wheel that makes trailer connections stay slack-free and safe!

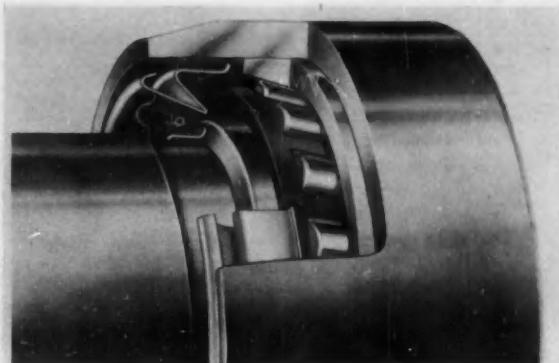
The Fontaine **NO-SLACK® Lock**

A solid steel jaw and wedge form a mighty barrier that holds the kingpin firmly in place and automatically adjusts for wear. There are no shims or rubber blocks necessary.



Fontaine NO-SLACK Fifth Wheels carry a two year factory warranty, and they are sold nationally through all major truck manufacturers and franchised truck dealers.

Fontaine Truck Equipment Co., Inc.
1232 North 37th Place Birmingham 1, Alabama



Wheel Oil Seals Standard from Trailmobile

Trailmobile, Inc., Cincinnati, Ohio, now features wheel oil seals as standard equipment on all of its trailers. The Trailmobile oil seal is said to give positive sealing with less friction for longer seal life. The easily-installed seals are now available at all Trailmobile sales and service branches for application on trailers now in service.

NOW! FULL-POWER FIRE FIGHTING!



New Kidde dry chemical portables kill more fire — faster!

For truck, bus or shop — get the most powerful fire protection money can buy — with new top-rated Kidde dry chemical portables! The two new Kidde units illustrated pack the extra power needed to stop fire in seconds. For example, Kidde's 2 1/2 pound dry chemical is as compact as a 1 quart carbon tet unit, yet is 8 times as powerful! Both Kidde units feature simple, two-step operation, even in gloved hands. Easy-to-read dust- and moisture-proof gauge assures you of correct pressure, handy bracket insures fast operation, prevents accidental discharge. Both Kidde units can be recharged easily either by available air pressure (150 psi) or with Kidde's low-cost recharge unit. 2 1/2 pound model recharges for a cost of about \$1.00, other models at similar low cost. Find out more about these effective, dependable Kidde units. See your supplier or write Kidde today!

Kidde 

Industrial and Marine Division
Walter Kidde & Company, Inc.
1212 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada Ltd.
Montreal — Toronto — Vancouver



in vehicle
accessories

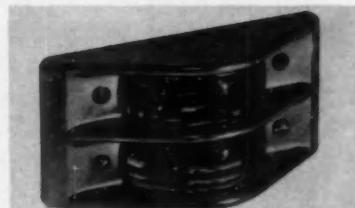
Heavy duty brake blocks are identified as the "Chief" line by Molded Materials Division, Carlisle Corp., Ridgway, Pa. The company



claims exceptional wear and braking stability characteristics for the new line of dry mix, premium quality heavy duty brake blocks.

More details? Circle 300 on reply card

Clearance marker light is the aluminum-armor Model No. 96 from R. E. Dietz Co., Syracuse, N. Y. Design features include two



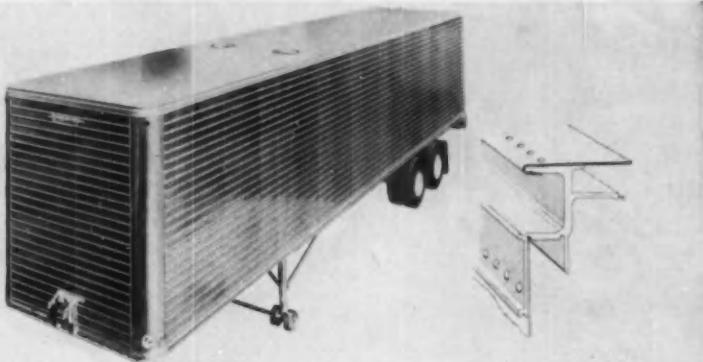
triple-life bulbs rated at 1500 hrs. A center bar protects the single lens and divides it into separate chambers for each bulb.

More details? Circle 301 on reply card

Radius rods from Truckstell Mfg. Co., Cleveland, Ohio, are designed to carry driving and braking forces directly to the frame and let springs carry only the

One-Piece Trailer Roof

A seamless, one-piece roof is now standard on all Trailmobile aluminum van trailers. The new roof is a continuous sheet of aluminum laid onto the pre-caulked top flange of the quarter panel. A watertight, wrap-around seal along the front and sides is produced by bending the edge of the roof sheet down and under the quarter panel flange (See photo insert). All roof rivets are anchored outside the body. Two watertight, 16-in. skylights are located near the trailer front.



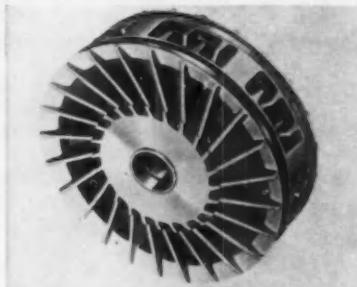
load. Maker says the new rods save both centerbolt and leaf springs from damage, never need adjustment and



keep driving axle perfectly aligned. Lifetime rubber bushings act as shock absorbers.

More details? Circle 302 on reply card

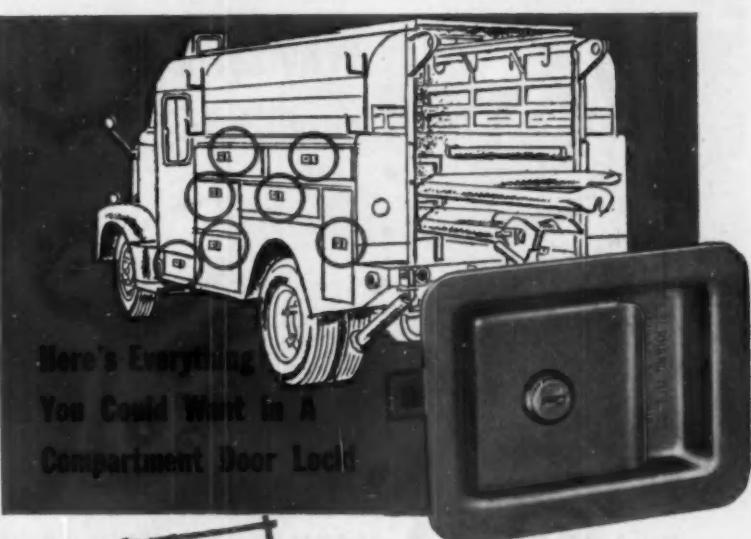
Speed governor is a new invention said to convert variable input drive speeds into constant output speed for compressors, pumps, supercharger blowers, DC generators and flexible drive cables.



Speed Monitor maintains predetermined governed speed despite varying accessory loads, according to Knecht's, Inc., Springfield, Ore. The unit is applied to either the drive shaft or the driven shaft.

More details? Circle 303 on reply card

Combination snow plow and front push plate permit use of one vehicle for two operations. Weld (TURN TO NEXT PAGE, PLEASE)



Here's Everything
You Could Want in A
Compartment Door Lock

The **New** UNIVERSAL FLUSH PADDLE HANDLE LOCK

No. 4895 (Key-Locking)

Features

Incorporates all features
of No. 4881.

Easily Mounts Right or
Left Hand.

Can be slam-locked after
Key Locking and Removal
of Key.

Designers and builders of utility bodies will welcome
Lock No. 4895 for its job-proved multiple advantages,
plus certain **©** exclusive features imperative for
practical lock service.

Most compartment doors will advantageously accom-
modate this unique lock model.

It's a time saver for drivers and a strong "thief stopper".
More facts in the 4895 circular. Yours for the asking
or writing.

EBERHARD MANUFACTURING COMPANY
EVARTS AVE. • CLEVELAND 4, OHIO
DIVISION OF THE EASTERN MALLEABLE IRON COMPANY

Write For The
No. 4895 Circular

LONGRUN



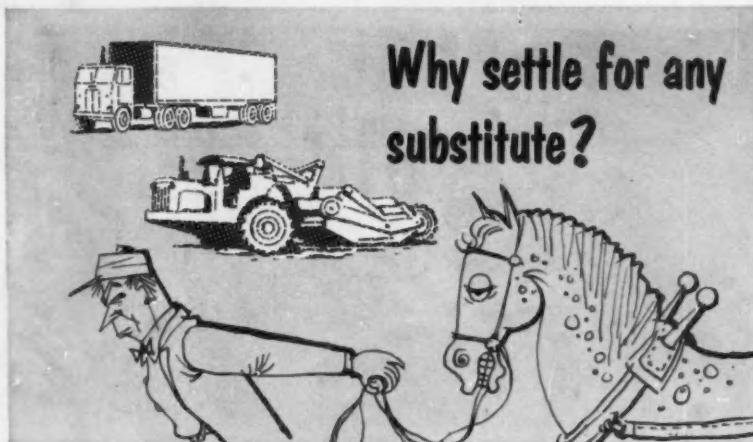
● More details? Circle 170 on reply card inside back cover



Good Looks, Long Wear for Vehicle Floors

Ambulances, cabs, taxicabs and police patrol wagons are among the many fleet vehicles that can use the type of flooring shown here. Armstrong Cork Co. makes both vinyl-plastic and linoleum sheet goods suitable for vehicle floors. Shown is an interior view of an ambulance built by Hess & Eisenhart Co., Cincinnati, Ohio. This Armstrong Textelle linoleum has a design that extends through the wearing surface to the backing. It's good looking, long wearing and easy to maintain.

More details? Circle 360 on reply card inside back cover



in vehicle accessories

Continued from Page 123

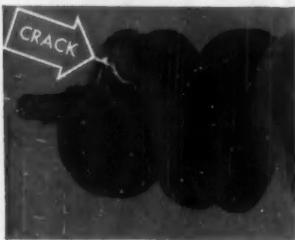
Built Body Co., Brooklyn, N. Y., makes the unit for all vehicles. The plow is electric-hydraulic with dashboard control. It comes in 6, 7, and



8-ft lengths. The front push plate is 40 in. long and is installed on chassis with brackets. Snow plow is anchored to bottom underside of push plate.

More details? Circle 304 on reply card

ROLL SAFE! Be Sure You Get Real MAGNAFLUX-MAGNAGLO* INSPECTION with Every Overhaul!



This cracked crankshaft was quickly and positively identified by Magnaflux-Magnaglo during engine overhaul. Otherwise apparently sound, it would have failed soon—caused a breakdown or a ruined engine.



BE SURE!
GO TO THE SHOP WHERE
YOU SEE THIS CERTIFICATE!

When you insist on genuine proven Magnaflux-Magnaglo inspection of every critical part during overhaul you cut operating cost—assure on-time service—stretch safe mileage without road failure or accident from broken parts.

Magnaflux-Magnaglo pinpoints defective parts at low cost during maintenance or overhaul, so no cracked parts are reassembled: Spindles, axles, etc. when brakes are relined; heads when valves are ground; blocks, engine, steering, and drive parts at overhaul. You don't use the bad nor throw away the good.

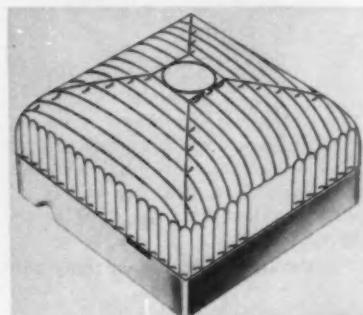
Economic maintenance requires the best in test equipment, in trained personnel, in the manufacturers' standards, and in dedicated test know-how. Rely on your Authorized Magnaflux Overhaul Shop for top quality trouble free service. He uses the most modern test equipment—the same as used by all automotive manufacturers. Magnaflux Corporation, 7308 W. Lawrence Ave. Chicago 31, Illinois.

*MAGNAFLUX, MAGNAGLO, REGISTERED TRADEMARKS OF MAGNAFLUX CORPORATION

MAGNAFLUX CORPORATION
A SUBSIDIARY OF
General Mills

TEST SYSTEMS

Clearance marker lamp is the Model No. KD-526 from K-D Lamp Co., Cincinnati, Ohio. The rectangular light has a die-cast, rust-

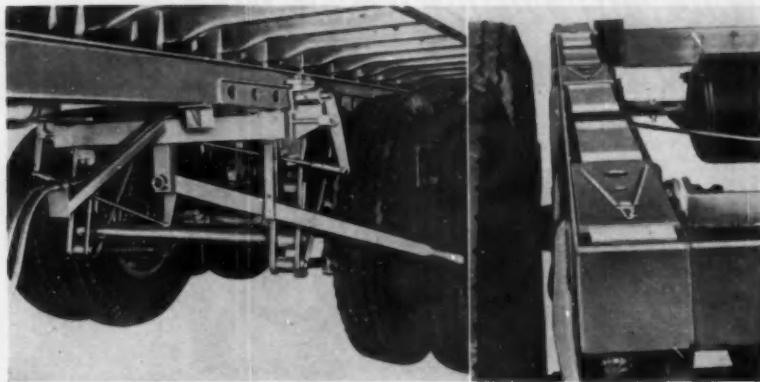


less base which provides for inside and outside wiring. Only two mounting holes are used for flush mounting. More details? Circle 305 on reply card

Adjustable Sliding Tandem

Fruehauf's "Select-a-Point" under-construction (left photo) provides a choice of 14 tandem locations over a 78-in. range in six-in. increments. New lubricated bronze bearings give improved sliding action. Bearing surfaces are lubricated through pressure fittings below the sub-frame rail (right photo). Grease is then fed to "V"-shaped distribution grooves on the face of each bearing. "Select-a-Point" is adaptable to new or earlier Fruehauf trailer models.

More details? Circle 307 on reply card



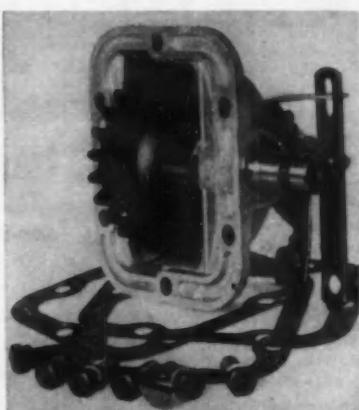
In-line gas filter with micro-Bronze element is said to prevent swelling and clogging due to water absorption and chemical decomposition. The element may be cleaned in emergency and reinstalled.



However, it should be replaced at regular intervals to assure maximum fuel purification. The new Kem in-line gas filter is made by Kem Mfg. Co., Inc., Fairlawn, N. J. Various sizes are available.

More details? Circle 308 on reply card

Medium-duty PTO from Dana Corp., Toledo, Ohio, is known as the new AB series Spicer power takeoff. It's a single gear, medium-duty unit designed primarily



for dump body and tail gate lift applications. Rated at 15 hp at 1000 rpm for intermittent service, it's available in models for all spur or helical gear transmissions.

More details? Circle 309 on reply card



Stock Heavy Duty Hose and Hose Ends in this handy steel service bin

Ever stop to figure how much of your mechanics' time is spent in line at the parts crib?

Here's a way to cut that non-productive time to the bone on heavy duty hydraulic, air, fuel and oil line repairs: Issue them a stock of hose and ends in one of Weatherhead's famous HC-1 service bins—on a dolly for handy use at the job. It holds 350 feet of hose—up to 250 fittings. Your Weatherhead Jobber will be glad to help you select the stock to fit your needs. You're losing man-hours and money every day you delay your order.

And for light duty hose stock
ask about the HC-11 cabinet.



WEATHERHEAD

the original equipment line

THE WEATHERHEAD COMPANY • Ft. Wayne Division

Dept. 606 • 128 West Washington Blvd. • Ft. Wayne, Indiana

ALL WATER PUMPS ARE NOT ALIKE



... they may look the same,
but
when put to actual test,
there is a

BIG DIFFERENCE
Always Supply a

NEW

WOHLERT WATER PUMP

SELL THE BEST ... SELL WOHLERT



Wohlert
Corporation

LANSING 5 MICHIGAN

● More details? Circle 173 on reply card inside back cover

RIKER HEAVY DUTY Truck & Bus MUFFLERS



Different in Design, Construction, Performance and Long-Life Efficiency.
Write for FREE booklet that tells HOW and WHY.

RIKER MANUFACTURING, INC., 4901 STICKNEY AVE., TOLEDO 12, OHIO

● More details? Circle 175 on reply card inside back cover

America's No. 1 FOUNTAIN BRUSH

...and It's Guaranteed

No. 240
OBLONG
11" back
5" handle

12.45 COMPLETE
Either Style
Replacement heads only \$8.50

100% tynex nylon tufts will
not mat or tangle, are securely
anchored in waterproof block.
Rust-resistant steel back firmly
riveted to block. Lightweight
steel handle is zinc plated. Low
cost head is easily replaced
and is reversible. Mar proof
rubber bumper.

No. 250
ROUND
5 1/2" diameter
back, 5" handle

SPEED WASH FOUNTAIN BRUSHES

Milwaukee Dustless Brush Co., 530 N. 22nd St., Milwaukee 3, Wis.

Please ship the following:
240 Oblong Speed Wash QUAN.
250 Round Speed Wash
Please send additional information and quantity prices

NAME _____
STREET _____
CITY _____ STATE _____

● More details? Circle 176 on reply card inside back cover

NEW INCOME OPPORTUNITY WITH HIGH PROFIT RETURN

PROFITS ARE BIG!

FIRST TIME OFFER adds substantially to your income with SECURE-UR-TRIP Insurance vending machines . . . a projection of the tremendously successful AIRPORT INSURANCE vending program! SECURE-UR-TRIP takes the risk out of travelling by selling insurance against accidents from or in cars, buses, taxis, trucks and other motor vehicles. Ideal locations are in gas stations, motels, hotels, restaurants, etc. Policies are underwritten by a major insurance company . . . provide \$5,000 protection over a 7 day period for 50¢. No insurance knowledge or experience is required.

WRITE . . . WIRE . . . PHONE
Philip van Kuller, Vice President
Dept. CC

SECURE-UR-TRIP, Inc.
271 Church Street
New York 13, N. Y., WA 5-2140

● More details? Circle 174 on reply card inside back cover

SECURE-UR-TRIP, Inc.

New York 13, N. Y., WA 5-2140

More Profit \$\$

with

KIM
Hotstart
REG. U. S. PAT. OFF.

KEEP RIGS ROLLING

with KIM HOTSTART Electric Pre-Heater — Engines are kept warm between runs, eliminating inside heated terminals. KIM provides instant cold weather starting; reduces service tie-ups and costly repairs. KIM plugs into an electric circuit; draws off cold water from engine; heats and circulates it through engine. Approved and used by all major engine manufacturers.

For your DIESEL
& GAS ENGINES

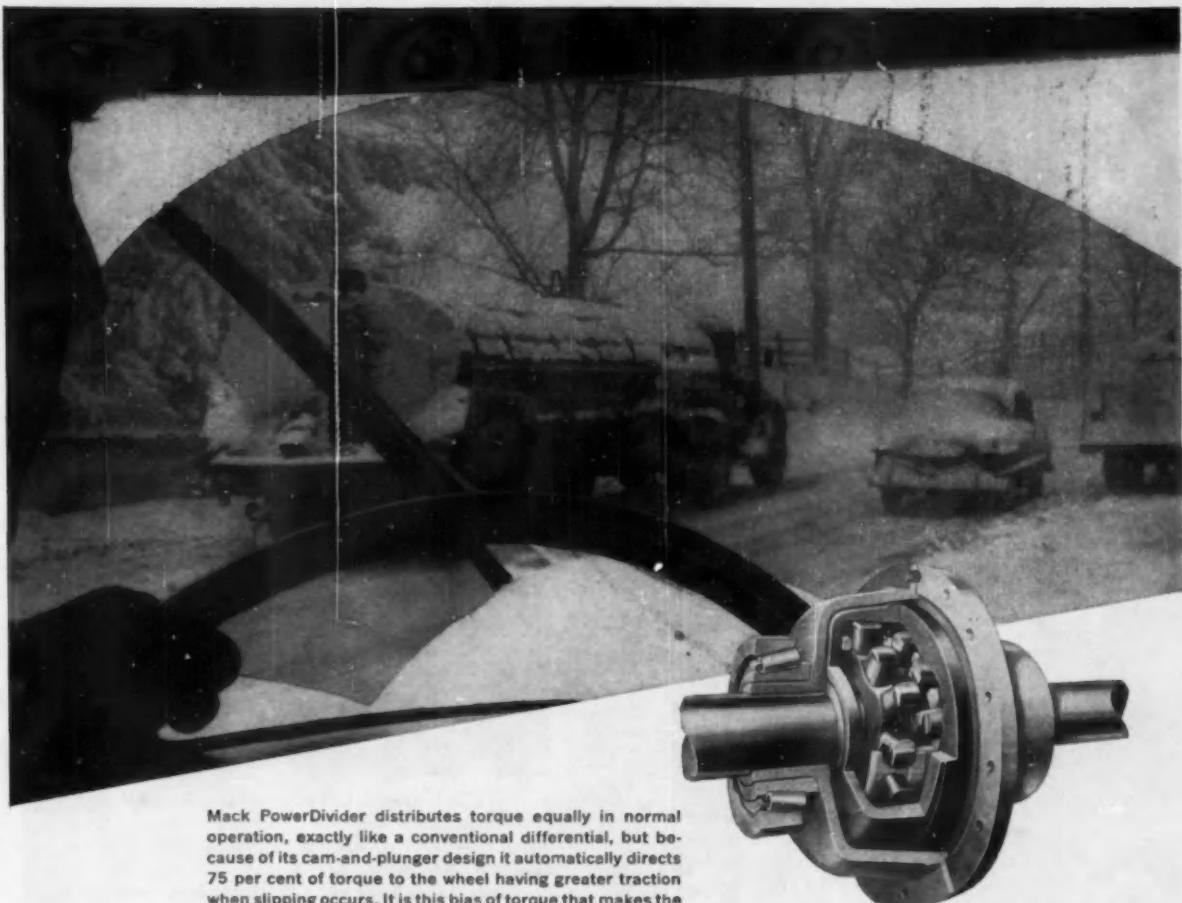


SEE YOUR DEALER
or write for
free literature

KIM HOTSTART Manufacturing Company

West 917 Broadway Avenue, Spokane 1, Washington

● More details? Circle 177 on reply card inside back cover
COMMERCIAL CAR JOURNAL, December, 1960



Mack PowerDivider distributes torque equally in normal operation, exactly like a conventional differential, but because of its cam-and-plunger design it automatically directs 75 per cent of torque to the wheel having greater traction when slipping occurs. It is this bias of torque that makes the PowerDivider superior to lock-out differentials.

Is slippery going slowing down your schedules?

Mack PowerDivider differential provides surer footing in bad weather

Are your four-wheel units hampered by winter's snow and ice? Then Mack has the answer to your problem—Mack tractors equipped with the exclusive Mack PowerDivider differential which eliminates the need for skid chains during slippery winter weather conditions.

Now you can have the kind of sure-footed traction usually associated only with Mack six-wheel, Balanced Bogie-equipped units by specifying the PowerDivider in your next Mack.

No more undue scheduling worries because of ice and snow. The Mack PowerDivider automatically transfers ample power to the wheel with traction

to get your vehicle out smoothly . . . unlike manually-controlled lock-out differentials which create harmful axle overloading by directing all the power to the driving wheel . . . and eliminate differential action if left locked.

A true differential in every respect, the Mack PowerDivider takes the place of conventional differential gearing, fitting compactly inside the carrier of the Mack Dual Reduction assemblies most commonly used in highway service. Its cam-and-plunger principle has been thoroughly proved in 20 years of operation, as the inter-axle differential on famous Mack six-wheelers.

To learn how the Mack PowerDivider can help your operation meet winter-time scheduling problems, call your Mack representative. He'll be glad to explain how its operation fits your particular needs. Mack Trucks, Inc., Plainfield, New Jersey. Mack Trucks of Canada, Ltd., Toronto, Ontario.

8004

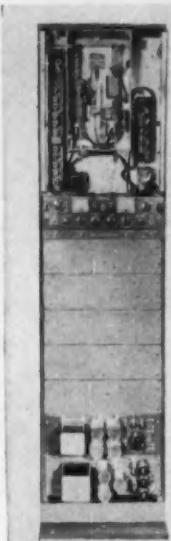
MACK
FIRST NAME FOR
TRUCKS



in shop and fleet equipment

It's easy to get more details about the items described.

Just fold out and use free reply cards inside back cover



Microwave equipment for fleet use in the 12,000 mc frequency is the Model MR-40 from Motorola. The new transmitter-receiver can be used for very high speed data, facsimile, voice and teleprinter transmissions. Its beam can be split into 600 or more separate channels. Under recent FCC rulings, certain truck fleets, utilities and government fleets are now permitted to operate, individually or cooperatively, microwave systems. Microwave can be used for facsimile or teleprinter transmission of shipping documents, dispatch records, memos, etc., at speeds up to 62,000 characters per second. Microwave systems are available for any range.

More details? Circle 444 on card

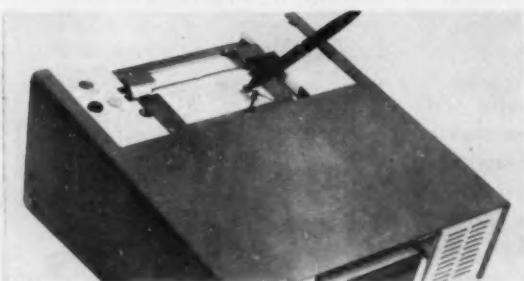


High-speed teletypewriter for private line or regular long distance telephone use, has been developed by Bell Telephone. It sends data from paper tape at 1000 words per minute—or 10 times faster than present equipment. Data received can be converted into page copy or punched cards for accounting use. It can transmit complete details for 250 waybills in eight minutes. A subcommittee of the Regular Common Carrier Conference is studying new applications. More details? Circle 345 on reply card inside back cover

TURN PAGE, THERE'S MORE

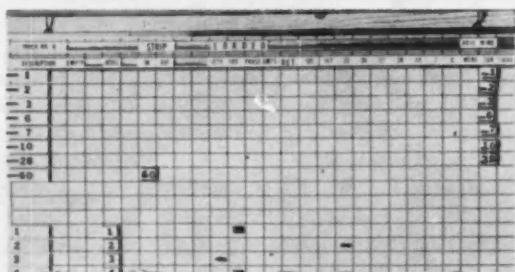
A new line of telescribers is now offered by TELautograph Corp., Los Angeles. The new Model D permits the operator to write directly on paper and to make up to three carbon copies at the same time. Range on the new model is up to 50 miles. Transmitted messages are reproduced instantly on one or more telescribers, as desired. Fleet applications include PU&D dispatching, service calls in utility fleets, and ready-mix concrete orders.

More details? Circle 346 on reply card inside back cover



Magnetic fleet control board gives visual control of vehicle location, status, PM schedules, etc. Made by Methods Research Corp., Staten Island, N. Y., the control boards have magnet display pieces which can be easily and quickly moved from one column to another to show up-to-the-minute status or location of PU&D trucks, deadlined equipment, vehicles in for PM, etc. Standard Magnet Control Board is 2 x 3 ft. Other sizes are also offered.

More details? Circle 347 on reply card inside back cover





"LIPE CLUTCHES

play an important part in keeping this fleet rolling"

Philo Edsall, Supervisor of Maintenance for Penn Yan Express, Penn Yan, New York, says:

"I recently took time out from regular duties to review our maintenance records in order to determine which replacement parts were giving us the best performance and service.

"I particularly noted the outstanding endurance of Lipe Rollway Clutches and I thought you would be interested in knowing of our experience.



*You can get Lipe Factory Exchange or Interchange Clutches for vehicles 18,000 lbs. G.V.W. and up. See your Lipe Jobber: He's listed in the Yellow Pages.

"Penn Yan Express, Inc., operates a fleet of 60 heavy duty tractors, hauling maximum pay loads over a five state area with all kinds of highways and weather conditions, traveling in excess of three million miles annually. Lipe clutches have played a tremendously important part in keeping this fleet rolling. Our records indicate Lipe Clutch performance to be in excess of 175,000 to 200,000 miles."

The experience of this fleet is another illustration of why . . . ***the trend is to LIPE!***



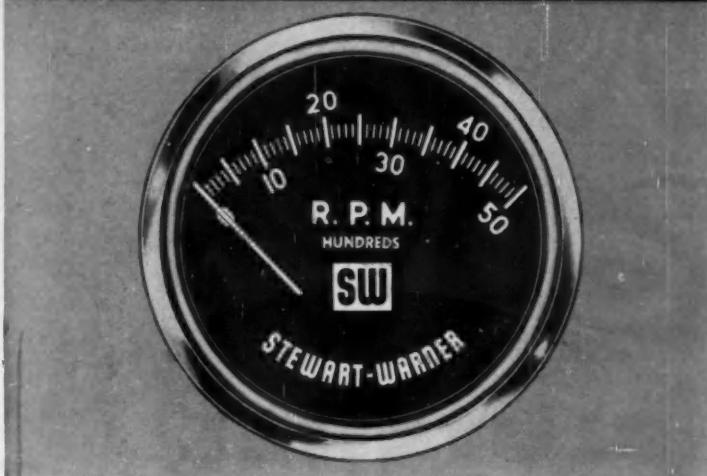


in shop equipment

Brake bleeder features a "quick-disconnect" fitting and a hanging tool tray on the tank to hold tools and fittings. The new Model No. TI200-7 bleeder tank from

Eis Automotive Corp., Middletown, Conn., comes with a complete set of adapters including those for 1960 Ford, Chevrolet and GMC trucks. More details? Circle 311 on reply card

NEW "100" SERIES ELECTRIC TACH!



Easy-to-read, easy-to-install, the new Stewart-Warner "100" Series electric tachometer makes your equipment easier to drive . . . assures peak efficiency and economy of engine operation.

YOU GET . . .

New precise readings. Engine speed readings are accurate at even highest speeds. Shifting can be accomplished more smoothly to prevent engine lagging. Driver is able to keep in the "economy range." Result: less engine wear; maintenance cost and downtime are reduced.

New standards for dependability . . . accuracy. Quality-designed components and design eliminate pointer waver. There's no overrun or pointer lag, driver always knows exact engine speed.

New easy installation with deluxe top-of-dash, steering post or panel mounted models for 4, 6, and 8 cylinder engines; 6 and 12 volt ignition systems; 0-5000, 0-6000 and 0-8000 dial scales. Simple wiring connections mean quick, reliable installation. Case size is same as other Stewart-Warner tachometers - 3 1/2" diameter. Black face dial and white numerals and pointer.

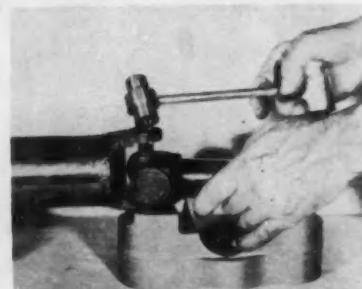
See your supplier today—or write for complete details



**INSTRUMENT DIVISION
STEWART-WARNER
CORPORATION**

Dept. VV-120, 1840 Diversey Pkwy., Chicago 14, Illinois

U-joint tool is said to permit servicing of universal joints without use of a bench vise or power tools. Legvold Enterprises, Inc., Northridge, Cal., says its new



Speedee U-joint tool eliminates unnecessary stress and strain on the joint shaft during bearing replacement.

More details? Circle 314 on reply card

Alternating current can be supplied from a 12-volt storage battery with the ESB Activertor. It provides 110-volt AC current for operating service tools for roadside repairs, emergency lighting and



other uses. Electric Storage Battery Co. says the unit also acts as a fast or slow charger for 6- and 12-volt batteries.

More details? Circle 316 on reply card

Key identification is made easy with new "ColorCaps" made by Saxton Barrett Co., Altadena, Cal. The pliable plastic caps come



in nine colors, slip over heads of keys to permit instant identification. Key jingling is also reduced.

More details? Circle 319 on reply card

Canopies for walks, loading platforms and parking areas are of coated steel. Four basic models are made by Armco Drainage & Metal Products, Inc.

Circle 392

Safety sole with adhesive backing prevents skidding on slippery surfaces. Shur-Treds are made by Weather Walker Products.

Circle 393

"Nut buster" splits and removes rusty or frozen nuts without damaging threads or bolts. It's made by Boroughs Tool & Equipment Corp.

Circle 394

Car stands in 2- and 5-ton capacities are made by Blackhawk Automotive Division. Weight must be removed before saddle can be lowered.

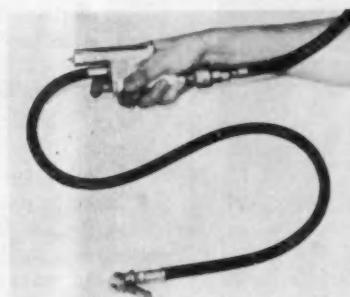
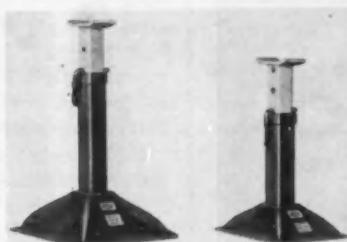
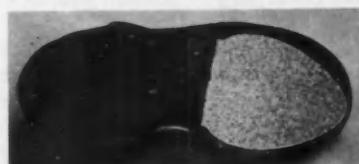
Circle 395

Chuck gage registers tire pressure instantly on built-in gage. The Model No. 3650 from A. Schrader's Son features one-button control for inflation and deflation of tires.

Circle 396

Shelf truck for heavy duty use is an all-steel, four-tray unit. Bay Products makes it in two sizes for shop convenience.

Circle 397



Safe delivery ...on schedule!

Icy roads won't stop your trucks this winter...when they're equipped with NAPCO ELSTON SANDERS.

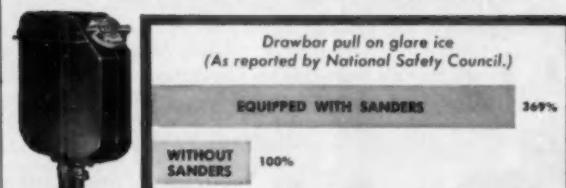
Flip a switch...and a stream of traction-giving grit drops in front of each drive wheel. Tires dig in, and your truck rolls on...right on schedule!

Helps Prevent Accidents. With lightning-fast traction when needed, your NAPCO-equipped "must-go" vehicle climbs icy hills, crosses dangerous intersections, and turns slippery curves...with that additional safety margin that counts.

Inexpensive. NAPCO ELSTON SANDERS actually cost less than the price and maintenance of chains...yet unlike chains, they are built to last a lifetime.

This winter keep your trucks and buses moving on schedule with NAPCO ELSTON SANDERS.

(Below) Napco Sanders could have kept this truck moving.



NAPCO ELSTON SANDERS

Manufactured by Napco Industries, Inc., Minneapolis 11, Minnesota

Vehicle selection

10 steps . . .

Continued from Page 98

by many starts. Larger brakes, horsepower will do a satisfactory and economical job . . . providing it is designed for stop-start service.

Such an engine should operate in the 175-185 deg F range, provide maximum torque at compara-

tively low speeds. Give special attention to heavier crankshaft and bearing design, effective valve cooling, full pressure lubrication. Heavy-duty full-flow oil filter and forced crankcase ventilation are also essential. In some climates, an insulated crankcase cover may be desirable.

Clutch, transmission, front and rear axles should be at least one weight range higher than the intended gross weight. This compensates for the extra load imposed

kingpins and other components will similarly extend the vehicle's life. Extra cost for factory-installed heavy-duty components is small compared to savings in maintenance cost. Rear axle ratio, spring ratings and tires should match weight and street requirements.

Extra equipment, such as nylon cord tires for heavy loads (milk delivery, for example) governors, low cut-in or heavy-duty generators, electric windshield wipers, a heater-defroster, may also be worthwhile.

Body specifications depend on whether or not you switch the body from chassis to chassis. In all cases, you want it to be as light as possible, rugged, have good accessibility and working conditions for the driver. Step and floor height must be as low as design will permit. For roadability and freedom from roof damage, overall height and body should be as low as possible, still provide driver headroom.

Body design needs to resist the dynamic stress of a maximum load . . . and normal street and parking damage. Preserve structural members and body panels from corrosion and avoid structural pockets that become corrosion traps. Also provide for best handling, protection and preservation of products to be delivered.

Body should present clean, pleasing lines and an attractive finish when completed.

6. Specify performance requirements. In addition to mechanical specs, let your suppliers know what you want the vehicle to do. They might be able to suggest a better way to do it . . . and it helps them understand just what you want. Misunderstanding in meeting mechanical specs can be costly and time-consuming.

7. Receive quotations. Be sure you have a sufficiently large enough number of suppliers to ensure competitive bidding. This is true whether you buy chassis and body separately or together.

8. Evaluate quotations. Clarify departures from your specs, points of difference or counter-proposals. Check them against past performance.

9. Follow work in progress. This



Install Handy Vari-Speed Governors and get your program on the road.

"Commercial Car Journal, March, 1960—'A. T. A. Asks Fleets...'"



KING-SEELEY CORPORATION
ANN ARBOR, MICHIGAN

WORLD'S LARGEST MANUFACTURERS OF AUTOMOTIVE GOVERNORS

assures compliance with specifications, solves minor problems quickly, speeds final delivery.

10. Place in service. Be sure both your drivers and maintenance crews are thoroughly oriented on the new vehicles. Tell them what went into the design, what you hope to gain from it. Sell 'em on the advantages, and you'll give the benefits.

Please Resume Reading Page 99

most satisfactory for the job. For example, livestock buyers are required to travel on unpaved roads, or no roads, to reach the livestock on the range. They also are required to be at another location, as much as 400 miles away, in the same evening or the next morning, for another purchase.

It has been the general feeling in our industry that a better vehicle should be furnished to this class of user to avoid breakdowns, delays, extra maintenance, and other difficulties. These are rela-

tively short-lived cars because of the high mileage, and the expense of operating them is very difficult to control. We would rather see more money invested in the original car than in the maintenance bills that result from this hard service.

The prestige factor is a rather indeterminate item, yet it is frequently injected by sales divisions because of their peculiar marketing problems. For example, salesmen of pharmaceutical products

(TURN TO PAGE 136, PLEASE)

Passenger car fleets

Continued from Page 99

erated for their full useful life, but are traded on some basis to establish a somewhat standard rate of depreciation.

There are areas, particularly in and around Houston, Texas, for example, where salesmen's cars involving the transportation of customers, their own managers, and supervisors, are equipped with air conditioners, and perhaps justifiably so.

Likewise, and to a larger extent, the real value of cars not equipped with automatic transmission is becoming more difficult to realize in the resale.

Metropolitan operation, with many starts and stops, was always a serious problem for passenger-car operation. Automatic transmission solved a great many of these problems, and better brakes also help. It must be remembered that the driver—whether he is a salesman, engineer or supervisor—probably has a car at home equipped with automatic transmission. Driving the company car with a standard shift results in carelessness of handling each day until he gets used to it.

Cost of extras

Experience indicates that one-half of the additional cost of automatic transmission can be recovered on trading the car on a three-year basis. This, therefore, becomes a very small item of expense when less than \$100 is divided into a three-year period.

The area of operation also has an effect on the type of vehicles

PROTECTION where you need it most

Grote REFLECTORS



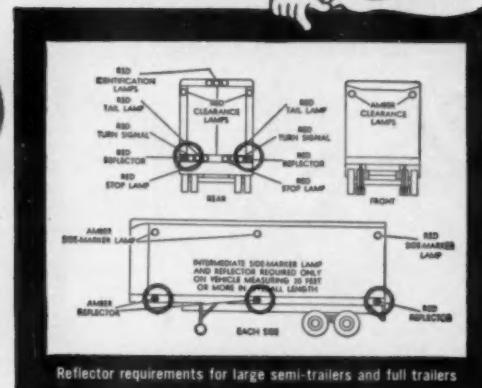
Model 11 Reflector
polyethylene housing—will not rust



Model R-100
Round Metal Housing Sealed Lens



Model 0-100
Oval Metal Housing Sealed Lens



Reflector requirements for large semi-trailers and full trailers

Lens: Grote offers the brightest reflectors available, having shatterproof, fadeproof, weather-resistant acrylic plastic lenses. Models 11, G-11, R-100 and 0-100 have hermetically sealed lenses. Other models have gasket and metal back.

Lens Housing: The 11 and G-11 housing is made of tough, pliable polyethylene plastic that is lightweight, non-corrosive and indestructible. Available in black or silver. Other models have heavy gauge steel housing with baked aluminum enamel finish.

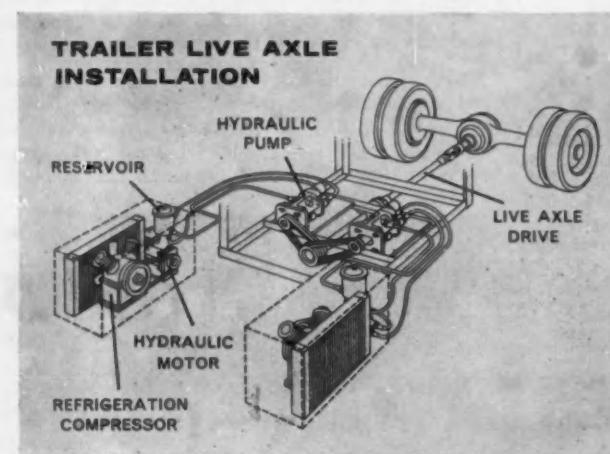
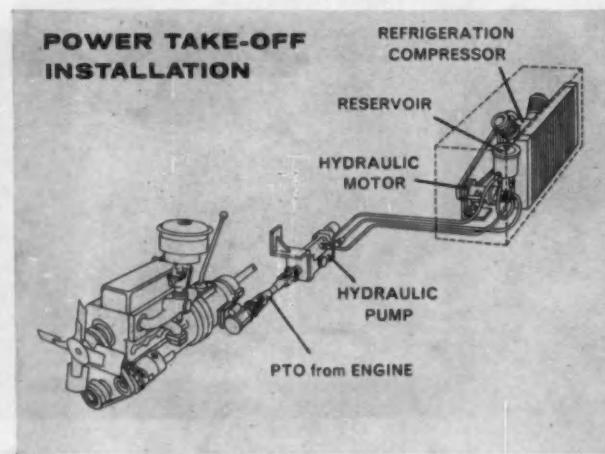
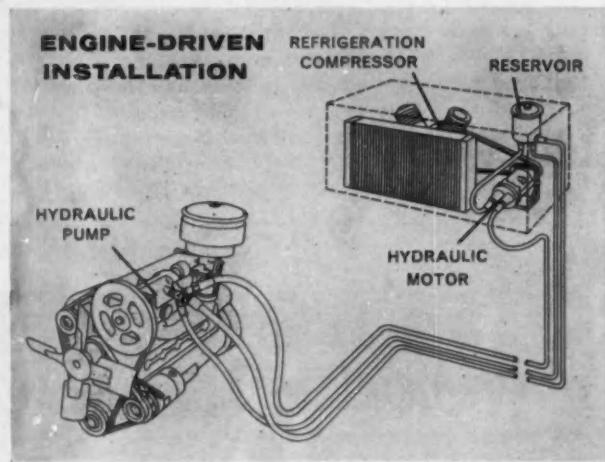


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How Sundstrand Drives can solve 99% of your fleet refrigeration problems!



From New York City to San Diego, fleet operators are solving their truck refrigeration problems and getting important cost-reduction advantages with reliable Sundstrand hydraulic refrigeration drives.

Truckers using this new refrigeration drive system report . . . "we've reduced maintenance 75%" . . . "300,000 miles with no time out for repairs" . . . "full power for fast pulldown sure helps in city delivery" . . . "we've eliminated costly body corrosion and rotting problems."

Two leading factors behind the growing popularity of Sundstrand drives are compact size and automatic operation. The system consists of: (1) A variable displacement pump; (2) fixed displacement fluid motor which drives the compressor; (3) a small reservoir. By measuring its own output, the pump supplies a constant volume of fluid to the refrigerating compressor drive motor, regardless of truck or engine speed.

Fleet owners also like the quiet, trouble-free performance and full-capacity refrigeration at low idle speeds provided by Sundstrand drives. Their drivers appreciate the new system because it eliminates refrigeration worries and lets them concentrate on making deliveries.

Check the many advantages continuous full-capacity truck refrigeration can bring to *your* fleet operation. For complete details on Sundstrand drives write for Bulletin No. 5002-4 today.

A few of the refrigerated truck fleets now using Sundstrand constant speed drives:

Armour and Company
Sealtest Milk
Wilson & Co.
Fried & Reineman

Adohr Milk Farms
McBride Transportation
Cudahy Packing Company
Tropicana Products



SUNDSTRAND HYDRAULICS

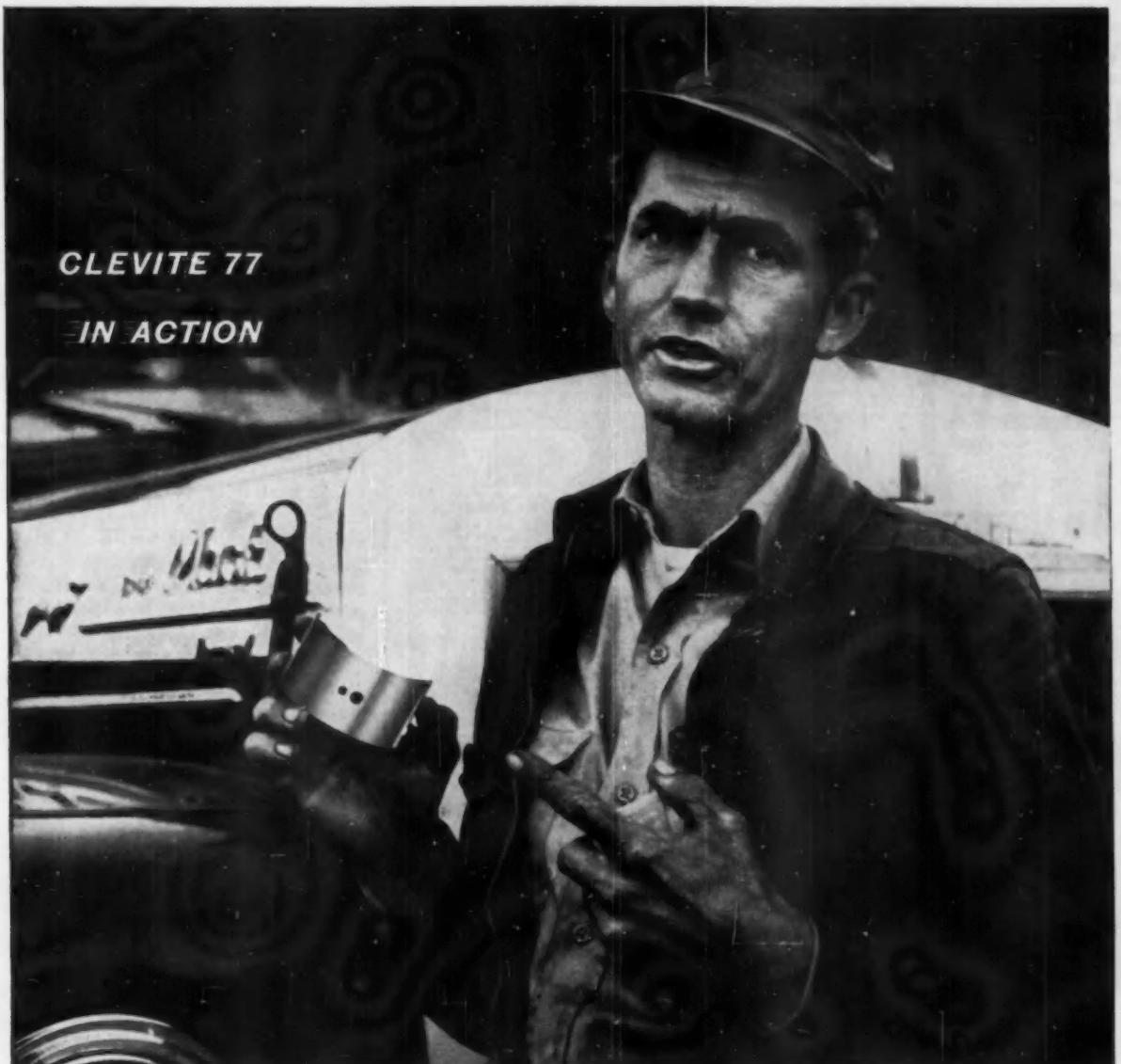
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IN ACTION

"You can't beat Clevite 77..."

... I know because I personally do all my own engine repairs and see firsthand how the bearings stand up. In fact, I've got a Mack with Clevite 77 bearings in it that's been hauling a 32,000 pound payload since 1956—and the bearings are as good as new. With a fleet of 12 trucks carrying sand and gravel everyday, I've got to have bearings that can take it."

Other fleet owners like Mr. Jenkins are learning that Clevite 77 bearings have the built-in quality to perform at a profit. Their patented tri-metal construction gives smoother operation and longer trouble-free performance. For your next engine overhaul, get Clevite 77 from your NAPA jobber—he has a complete stock.

Low premium "service insurance" is yours when you install...

MONMOUTH Engine Bearings

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio

says Lex Jenkins, Owner
Lex Jenkins Company
Baton Rouge, La.



Vehicle selection

Passenger car fleets

Continued from Page 133

are in competition with other, similar salesmen. They learn that the other company furnishes a higher-priced, better-equipped, newer passenger car for their salesmen and, as a result, become dissatisfied and change jobs.

Economical life for cars in fleet use seems to fall between two and three years—except for accidents, which should not be considered. We have been able to establish a life expectancy of a maximum of three years, utilizing the better used-car market periods to reduce this time when possible.

With salesmen scattered throughout 48 states and the District of Columbia with no maintenance facilities for passenger cars, and only fair dealer service for major maintenance, it is im-

perative that the life expectancy be carefully and continuously studied to avoid excessive maintenance charges.

Car maintenance

The maintenance of passenger cars is a very simple matter when the life expectancy is determined as above. The only problem is getting some one to do it. The driver, whether he is a salesman, manager, or engineer, must be convinced that there are certain simple maintenance procedures to be followed to obtain economical operation from his car. In order to do this most effectively, we have found that it is advisable to furnish the make of car that the driver prefers. This would not always be our choice, but we have found that he takes much better care of it. Apparently there is some "pride of ownership."

An inspection schedule is furnished with the car which includes lubrication, oil changes, engine tune-up, and other items. That is all that is required for the economical life we expect from any passenger car selected.

Please Resume Reading Page 100

Over-the-road fleets

Continued from Page 100

The second item, and probably the most important in relation to possible savings over this million-mile range, is operating costs. Fuels and lubricants are items on which the day-in, day-out money may be saved.

Savings possible in lubricant costs are, of course, of lesser magnitude, but there are vehicles operating over the road today, particularly in the higher horsepower ranges, which consume far too much lubricating oils.

The fuel used in this line-haul vehicle during its useful life may vary from \$40,000, if you have made a wise choice, to \$100,000 if you have made an unwise choice and are forced to operate and purchase fuel where the tax burden is even more excessive. Here is

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VAN NORMAN MACHINE COMPANY

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the area where a savings may be made immediately.

The job to be done

The vehicle selected must be purchased with consideration to the job upon which it is to be used. The gross loads to be hauled, the terrain over which it is to be operated, the operating schedules to be met, and qualifications of the driver should all be considered. The mechanical components thus selected must be well matched to each other and as a composite unit. A vehicle purchased with one item in the power train having an expected service life of 50,000 miles between overhaul periods may cause this vehicle to compile a shop-time record which is totally unsatisfactory.

Third item is parts availability at reasonable cost. This will materially reduce the down-time; thus, reducing your overall costs by reducing your investment.

Salvage or resale

The fourth item is the resale or the salvage value. Only the maximum life and maximum rebuildability of each part need be considered if your plan is to run the vehicle to maximum life and *salvage* the components. But I have found that new developments in design and material may make many components obsolete before they have been removed from the original chassis.

This being true, the *resale* value of the vehicle often is more important than the *salvage* value. A popular-model vehicle, which may be utilized in different operations than that for which it was originally purchased, will more often than not find a ready home. . . . A vehicle which has been purchased for a very special assignment or to exactly fit the regulations as to size and weight distribution in a limited geographical area, will have the same limited market area for a limited application when resale time arrives.

Fifth, there are on the road today vehicles designed or applied to their productive work in a manner which leaves something to be desired in the field of safe operation.

Utility fleets

Continued from Page 101

or "workshops." . . . Because of this portable workshop concept, utility vehicles traditionally travel an extremely low annual mileage.

For other commercial fleets engaged in over-the-road operations, the goal is maximum mileage utilization of all trucks. But in the utility industry, every mile traveled

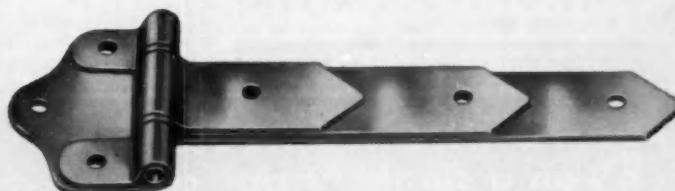
represents time lost from the job and actually hinders the fast and efficient service all utilities strive to maintain.

Hudson: With crews of two to 20 men depending upon a single truck, delays run high on any job, and, where public service is interrupted, cost can be astronomical.

Cooling and lube

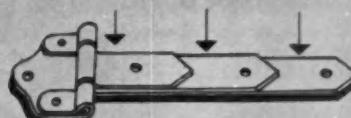
Rigg and Jeide: Many hours of engine idling, slow-speed driving, (TURN TO NEXT PAGE, PLEASE)

BETTER BECAUSE...they're BUILT UP WHERE IT COUNTS!



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STRENGTH WHERE IT'S NEEDED...



Leaf-type construction assures greater strength at the critical point. Leaves are spot welded.

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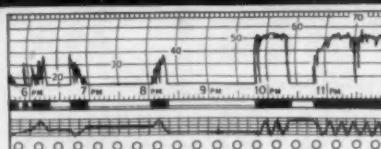
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NEW WAGNER SANGAMO TACHOGRAPH

graphically records truck operation

Mounted on the dash of a truck, this new type of recording speedometer permanently records vehicle operation up to 31 days on a single "strip" chart... graphic recording on chart indicates time truck engine started, time engine idled, starts, stops, speeds and distances traveled.

Information recorded on chart helps you plan better routing, control speed, and lower operating costs by encouraging safer driving and savings in time, gas, oil and tires... For details, mail the coupon.



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We operate _____ vehicles.

WS60-1

Vehicle selection

Utility fleets

Continued from Page 137

and consequent engine "lugging" are experienced. Therefore, premature wear is a prime factor because of difficulty involved in maintaining proper operating temperature and adequate lubrication of the engine and transmission under all conditions.

Hudson: Power accessories call for engine size, cooling systems, lubrication systems, and governors that exceed that required for highway hauling. High heat discharge and poor dissipation from vehicle space often cause vapor lock and percolation—making insulated fuel lines, pumps, and carburetors necessary and submerged pumps desirable.

Sometimes, a cheap baffle or another location at no extra manufacturing cost can be the difference in good or bad stationary operation when driving accessories. A cheap surge tank design, small extra-cooling capacity, a fan shroud, a less decorative but cleaner airflow grill, or 3-point, flexible, and independent radiator mount can eliminate cooling problems.

Gear and axle ratios

Rigg and Jeide: Another major problem has been the difficulty involved in obtaining a production-type truck with necessary and adequate gear reduction in the drive train for many of our vehicles engaged in off-the-road work.

Hudson: Gear-box and axle-ratio choices must provide a wide range of speed. Eighty or 90 to one total ratio is often needed for "sawmill" gear operation across fields and on slow pulls. But 50 to 55 mph at reasonable speeds is needed for trucks up to 60,000-lb GVW. Gear ratios must be selected (and available) to permit this spread of operating speeds and to keep engine rpm within economical torque and power range.

Steering

Rigg and Jeide: One other major

improvement needed in the vehicles unique to our operations and those of many off-the-road users is an adequate steering gear and steering linkage. Here again, an optional heavy-duty type steering-gear package designed for off-the-road operation would be readily accepted.

Hudson: One trip, driving a large truck across fields, will convince any supervisor or engineer that power steering is needed on a truck, even if he considers it a luxury on a sedan. A broken, disjointed, or bruised finger is convincing! With many drivers in utility work nonprofessionals (engineers, electricians, line-men, laborers), automatic transmissions in work vehicles can be worth more to overall costs than in sedans.

Power assists

Power derricks, tailgate lifts, hoists under cargo bodies, powered body jacks and outriggers, as well as auxiliary power on trucks for air and electric tools, not only improve crew relations but can quickly save enough crew time to justify extra investment. Power ladders and crew baskets are timesavers, easily resolvable to costs. Power assists are essential.

Rigg and Jeide: Most utility vehicles are heavily loaded and quite often are equipped with a power takeoff, winch, rapid forward and reverse gear box and drive lines for suspended-type diggers or other earth-boring machines. Various types of aerial equipment are also gaining industry-wide acceptance.

Hudson: Accessory mounting problems can dictate selection for some utility trucks. For example, if a winch is required, automatic transmission is out. For heavy winch service, an auxiliary transmission is needed to provide a full-torque top-mounted PTO. If very slow operation — "inching" — of winch or truck is required, V-8 engines are apt to be out in favor of the high torque at low rpm of the older design in-line 6-cyl engines.

Where derricks, winches, cranes, Gradalls, shovels, backhoes, and similar heavy machines are truck-mounted, double frames, high-strength alloy frames and special

frame reinforcement are required. Even pole derricks require a short body overhang special body-to-frame attachment, and a frame flush with body rear edge. U-bolts alone won't do the job. Fabricated brackets, gussets, and attachment plates are required to transfer direct, cantilevered, and torsion loads through the body to the frame.

Most cranes and the heavier accessories present even greater machine-to-truck frame-attachment problems. Front-mounted hole diggers call for frame front-end strength and front spring-load capacity greater than highway truck design. Utility trucks with high, fixed loads (cranes, Gradalls, and cabinet body) call for stiff springs of high capacity.

Clean bottoms are essential for off-highway service, but what vehicle has this? What we need is protection of lines, hoses, controls, propeller shafts, brake linkage, wheel cylinders, chambers, and diaphragms.

Life and corrosion

Rigg and Jeide: Our vehicles are retained for several years. Six to seven years is not uncommon for passenger cars and light commercial vehicles. Eight to 10 years is common for the heavier construction-type units. Thus, another major problem today is rusting or corrosion experienced on all vehicles, including the numerous special bodies used by utilities.

Hudson: Storage deterioration, reducing reliability, is a problem. Corrosion-resistant fittings, fuel tanks, air receivers and water jackets would be an aid. Water and condensation-proof ignition and electric systems are needed, too. For example, aluminum and fiber glass-reinforced plastic fuel and air tanks look promising.

Standardization

Utility vehicles, like almost all fleets, must have some standardization to reduce service training, shop tooling, parts inventories, and even operator training for safety and efficiency of work.

In our fleet, we . . . promote standardization by makes and models.

(TURN TO NEXT PAGE, PLEASE)

Change Truck Tires EASIER with

JOB-DESIGNED KEN-TOOL QUALITY BEAD LOOSENERS

Free frozen beads quickly with exclusive Ken-Tool Bead Looseners. They provide greater leverage . . . loosen the most stubborn truck tire beads quickly, easily.



SEE YOUR JOBBER on the complete line of *Job-Designed* Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. THE KEN-TOOL MFG. CO., AKRON 5, OHIO.



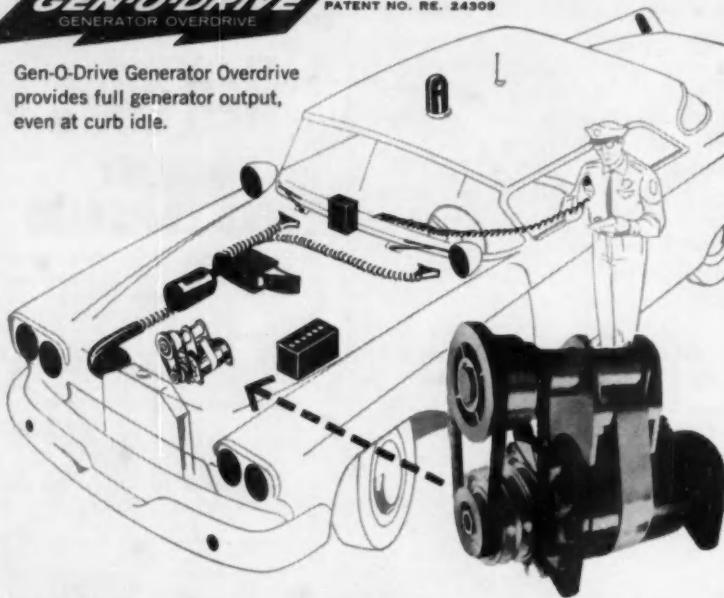
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End battery-generator breakdowns. New improved-model GEN-O-DRIVE offers efficient, dependable service. Assures maximum battery charge at any speed, even with all accessories operating!

Slow speed, long idling periods, sirens, warning lights . . . nothing can drain your battery. GEN-O-DRIVE gives top generator output. Prevents rundown batteries, cuts maintenance and costly replacement.

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Address _____

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Vehicle selection Utility fleets

Continued from Page 139

els and by components. We use evaluation tables to promote component standardization. For example, we have five batteries for a fleet of over 2000 vehicles from sedans to 65,000-lb GVW. Twenty sizes of tires cover a fleet from sedans to 100-ton trailers. We have three makes of trucks with the same rear axle and auxiliary transmissions. We have used the same winch on six makes and eight models of trucks and three makes and five models of crawler tractors, purchased over a 15-year period.

The evaluation table idea has been used for years and gives the competitive buyer a break because some features on one make of vehicle are useful and desirable but not important enough to write out competition. Or certain components are desirable for fleet standardization, but all bidders do not usually offer them. Or a fleet of sedans purchased last year is satisfactory, and the same supplier offers this basic model again with only styling changes. To buy again from this source eliminates special tools, mechanic training, and another parts stock. This elimination may amount to \$15 to \$50 over the life of a vehicle.

Engines

When it comes to engines, why is it that manufacturers will offer a 348-cu in. engine in the cheapest line of sedans, with a 4000-lb GVW, but offer only 238-cu in. in a 22,000-lb GVW truck? . . . On our job we have changed from 270-cu in. to 360-cu in., with only clutch change—and have improved the life of transmissions, drive lines, and rear axles. We have changed 450 to 501-cu in. and improved gas mileage by 15 per cent.

Too long now, we . . . have used the obsolete rule-of-thumb reasoning that large engines are expensive and the smallest that will give desired gradeability is best.

END

Please Resume Reading Page 102

SAE goes world-wide

Continued from Page 102

less vehicles, new engines and a model of the highway which drives your car for you.

Session topics cover a wide range. There'll be papers on operation and maintenance of current vehicles, of course. But the engineers will also discuss coming design and development of passenger cars, trucks, buses, transport aircraft, farm tractors, earthmoving equipment, containers, people pods, missiles and space vehicles.

There'll be an all-day symposium on "How will the passenger travel in mass transportation on 100 to 200-mile trips in the late 1960's?"

Other sessions will cover trucks of the future for highways of the future, road-building equipment of the future, successors to the piston engine and their effect on vehicle design. Production methods and materials will also be covered.

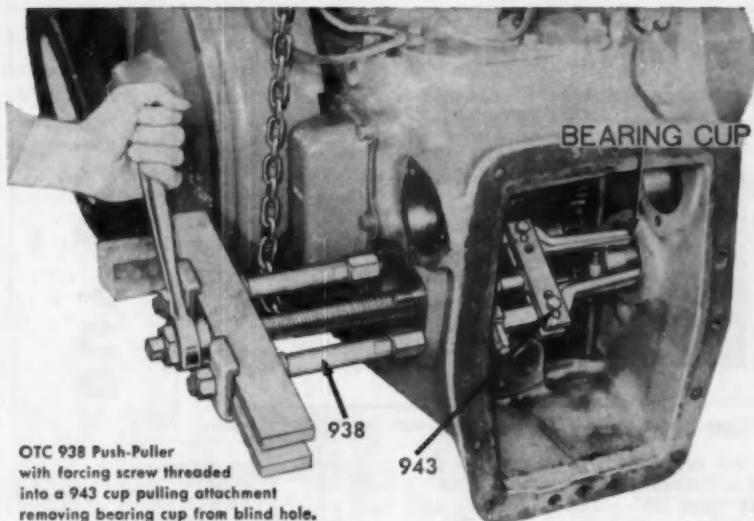
SAE officials are planning this to be the largest meeting of its kind ever held.

Program highlights for fleet managers include the following topics:

- Future short-haul transportation.
- Things you ought to know about batteries.
- Effects of weight and size limitations proposed by the American Assn. of State Highway Officials.
- Wire cord tires for trucks and cars.
- Designing trucks for super highways.
- Transmission and driveline developments.
- Truck electrical system reliability.
- Service experience with transistorized ignition.
- Engine, transmission and differential lubricants.
- Disc brakes and anti-skid braking devices.
- American and European bus development, operation and maintenance.
- Small vehicles for utility use.

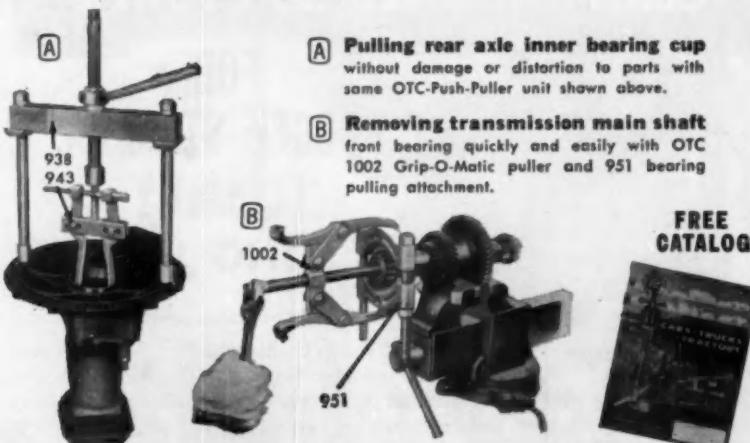
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Please Resume Reading Page 103



Save time, cut costs in removing and installing cups, bearings, gears, seals, pulleys, etc., with versatile OTC pullers

Save time, up profits by having the right tools in your shop to get the job done quickly, safely, easily — versatile OTC pullers with attachments. Manual or hydraulically operated . . . fit all makes of equipment. Complete hydraulic maintenance sets available in 17½, 30 and 50-ton capacities.



See your OTC distributor or write for further information.



OWATONNA TOOL COMPANY

341 Cedar Street, Owatonna, Minnesota

Cable Address: TOOLCO

Designers and manufacturers of the world's most complete line of Maintenance Tools and Hydraulic Equipment.



● More details? Circle 191 on reply card inside back cover

THE ORIGINAL SPRAY STARTING FLUID*



• Starts diesel and gasoline engines (from the smallest to the largest) down to 65° F. below zero • Starts in seconds • Excellent in humid weather too • Millions of cans sold • See your automotive jobber

*The inventors of spray starting fluid. Patent No. 2,948,595

Ask for the can with the "balky donkey" trademark

SPRAY PRODUCTS CORPORATION
P.O. Box 1988 • Camden 1, N.J.



More details? Circle 207 on reply card inside back cover

"THE HONEYCUTT TIRE REGROOVER GIVES US APPROXIMATELY 35,000 ADDITIONAL MILES PER TRUCK TIRE . . . BEFORE EACH RE-CAP!"

IRVIN SMART, vice president

Robertson Transport Company
You (just as Robertson Transport Company) can add 35,000 miles to each truck tire before each recapping. When they become slick, re-groove them with the HONEYCUTT TIRE REGROOVER and drive them 35,000 miles or more before recapping. The HONEYCUTT REGROOVER regrooves tires right on trucks. Cuts any pattern. Takes only a few minutes. Reduces down time and driver idle time. Produces better forward traction and safer stops. Reduces jack-knifing. Regrooving once around a rig will pay for HONEYCUTT REGROOVER. Write, call or wire

HONEYCUTT TOOL COMPANY
315 Austin Street / CA 4-1997 / Houston 2, Texas
(Agents wanted in some areas)

More details? Circle 194 on reply card

Kinnear

Kinnear originated the

Rolling

interlocking steel slot

Doors

door that coils upward.

KINNEAR
SAVING WAYS IN DOORWAYS

Rugged, efficient
space-saving doors
FOR TRUCKS OR
ANY OPENING —
plus longer lower-cost protection.

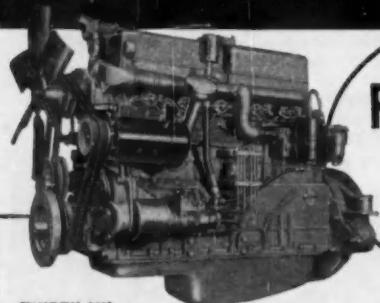


The KINNEAR Mfg. Co.
2100-20 Fields Ave.
Columbus 16, Ohio

More details? Circle 195 on reply card

CONTINENTAL RED SEAL POWER

FOR
RUGGED STAMINA
ECONOMY
LONG LIFE



THIRTY-SIX
TRANSPORTATION
ENGINES
ARE AVAILABLE

• Thirty-one gasoline models, from 26 to 300 horsepower—five Diesel models, from 66 to 225 horsepower.

For nearly 60 years, Continental Red Seal transportation engines have found wide acceptance in the really tough jobs where extra stamina is a prime consideration—in heavy-duty highway trucks and tractors, both as original equipment and as replacements for other makes, in buses, taxicabs, door-to-door delivery vehicles, transport mixers and the like.



Continental
Motors Corporation
MUSKEGON • MICHIGAN

142

More details? Circle 192 on reply card inside back cover

Don't Say Don't

Year after year, you and other commercial fleet operators are getting increasingly safe operations. Is this in spite of the drivers' need for better guidance and example? I like to believe that good drivers need safety rules only as a guide. They would want to drive civilly and safely even if there were no safety rules at all. But even a man who wants to drive safely may need specific guidance on how to do so.

I once heard a sermon which seems apropos to this matter. The minister pointed out that the Ten Commandments are clear indications of what the individual should *not* do. "Thou shalt not . . ." prefaces most of them. However, men floundered because these great commandments fail to stipulate what "Thou shalt *do*."

The New Testament, in the Beatitudes and the Sermon on the Mount, puts these rules in the more positive sense to tell us what we should *do* in our spiritual deportment.

Our present safety rules need a similar revision.

Follow this sign



More details? Circle 193 on reply card

COMMERCIAL CAR JOURNAL, December, 1960

to drivers

Continued from Page 90

Revising the rules

Let's see what happens when we take some typical safety rules and "Accentuate the Positive." In the following list, you'll find the common "Don't" rule with an alternative way of saying it.

- Don't pass.
Pass only when you're sure you're safe.
- Don't speed.
Obey posted speed limits.
- Don't tailgate.
Leave a margin of safety, watch your following distance.
- Don't coast.
Stay in gear on down-grades.
- Don't crowd the center line.
Stay in your own lane.
- Don't change lanes without signalling.
Always signal before changing lanes.

In most cases, the "Don't" rule is shorter, as you can see. That's about all you can say for it, however.

"Don't tailgate" tells the driver little. It is far more effective to tell him: "Stay back at least four vehicle lengths when following another vehicle, so you can see when it's clear to pass, and so you will have room to stop if the guy ahead of you stops unexpectedly." Sure, it takes more words—but it tells 'em why.

"Don't stop on the pavement" really hangs up the driver of a heavy rig, especially when rain has made the shoulders a quagmire of mud. A more reasonable rule would be "Whenever possible, park a disabled vehicle off the pavement. When this is impossible, or when the vehicle stalls on the pavement, immediately place warning flags or flares to warn other drivers." This type of rule gives the driver some positive guidance, and he will be more likely to accept its reasonableness and willingly respond to it.

Psychologists say that two factors are needed to successfully

change a person's behavior pattern:

1. There must be some positive way to motivate the change. You have to make the person want to do what you want him to do.

2. There must be an opportunity to exercise the behavior in the making. You have to give the person a chance to practice doing what you want him to do.

It's pretty hard to motivate a driver to do what you want him to do if you only tell him what you don't want him to do—and it's

harder still for him to practice *not* doing something.

I urge you and all fleet managers to review present safety rules and "Eliminate the Negative" as far as possible. Then add the positive, reasonable explanations and instructions your drivers need and want.

In a phrase: Don't say "Don't" to your drivers.

END

Please Resume Reading Page 91

KENDALL FLEET OILS

Shrink
Downtime
and
Repair
Costs



KENDALL F-L MOTOR OIL — Highly detergent-dispersant for heavy duty gasoline and diesel engines. Keeps engines clean and assures top performance in all fleet operations.

KENDALL SUPER-D MOTOR OIL — Series 3. A heavy duty lubricant for high output, supercharged diesel engines. Its detergent-dispersancy gives maximum engine cleanliness even when high sulfur content fuels are used.

Both are refined from the richest 100% Pennsylvania Crude with advanced techniques to control harmful deposits and corrosion, inhibit rust and oxidation and lower oil consumption.

Ask your Kendall Distributor, or write
KENDALL REFINING COMPANY
BRADFORD, PENNA.
Lubrication Specialists since 1881

1960 New Truck Registrations*

STATE	Breck-way	Chevrolet	Diamond T	Dodge	Ford	G.M.C.	International	Mack	Stude-baker	White	Willys Jeep	Willys Truck	All Others	Total
Alabama.....		400	1	29	322	94	62	24	2	13	1	5	46	993
9 Mos.	1	5,061	37	535	4,098	1,284	1,285	308	38	252	43	79	453	13,490
Alaska.....		5	3	15	10	10	10	1			5	21	114	75
9 Mos.	201	3	24	157	100	157	14	18	2	2	11	16	53	904
Arizona.....		380	6	277	106	49	1	1	11	2	11	16	53	975
9 Mos.	3,516	11	679	2,538	946	625	15	56	78	68	171	529	9,610	
Arkansas.....		443	1	42	475	121	1,163	1,281	37	56	41	40	174	1,272
9 Mos.	5,066	12	421	4,438	1,163	1,281	161	19	72	91	104	85	640	12,804
California.....		2,918	9	413	3,831	69	519	19	12	14	52	41	29	9,486
9 Mos.	20,049	137	3,386	27,927	6,517	5,860	185	455	763	758	776	5,061	81,372	
Colorado.....		414	1	72	400	93	93	5	12	14	52	41	29	1,218
9 Mos.	4,161	16	649	3,495	1,112	1,082	46	85	97	388	337	268	11,706	
Connecticut.....		69	2	14	111	82	124	10	2	12	16	23	68	553
9 Mos.	10	1,315	26	237	1,294	49	89	142	44	173	84	193	532	5,377
Delaware.....		32	7	41	7	7	26	12		2	8	8	7	149
9 Mos.	12	143	9	124	443	181	325	140	8	81	21	81	81	1,953
District of Columbia.....		53	3	75	15	33	2			2	2	3	14	204
9 Mos.	1	689	8	109	556	206	199	58	4	36	40	219	2,113	
Florida.....		540	5	57	910	181	283	44	10	92	22	231	2,452	
9 Mos.	6,039	102	671	7,118	1,848	2,059	352	100	514	316	578	1,843	21,540	
Georgia.....		528	24	123	857	186	178	4	13	5	9	12	47	1,784
9 Mos.	6,736	42	800	8,747	1,617	2,268	298	120	316	84	126	837	20,102	
Hawaii.....		38	11	42	12	13	1			9	5	37	13	181
9 Mos.	453	2	146	490	86	257	1	2	44	29	266	235	2,022	
Idaho.....		109	34	196	85	143	1	7	6	6	15	14	687	
9 Mos.	2,014	9	352	1,673	851	818	37	63	86	77	178	170	6,328	
Illinois.....		825	24	166	589	284	426	20	26	37	56	140	2,933	
9 Mos.	8,885	239	1,324	8,207	2,275	4,647	295	214	455	244	587	1,858	29,023	
Indiana.....		464	6	75	483	169	252	16	25	37	13	14	85	1,639
9 Mos.	6,056	85	913	5,116	1,624	2,841	332	236	304	101	249	873	16,812	
Iowa.....		311	3	39	354	81	230	4	8	7	12	43	1,105	
9 Mos.	3,881	47	431	3,280	891	2,111	45	82	69	69	119	420	11,451	
Kansas.....		466	2	42	490	131	175	10	5	11	16	17	1,365	
9 Mos.	5,197	23	552	4,546	1,346	1,581	12	53	58	59	153	216	13,806	
Kentucky.....		363	51	384	72	172	10	6	13	7	16	47	1,141	
9 Mos.	3,980	12	371	3,247	973	1,322	94	41	132	102	154	291	10,719	
Louisiana.....		590	1	22	540	103	134	31	4	11	10	8	36	1,481
9 Mos.	5,512	29	326	5,107	1,069	1,323	94	44	97	30	92	534	14,307	
Maine.....		2	113	21	151	71	105	4	9	3	15	44	24	564
9 Mos.	15	1,224	4	153	1,320	415	851	45	41	43	91	213	244	4,659
Maryland.....		1	226	32	266	68	183	25	6	40	10	30	44	931
9 Mos.	47	2,711	22	493	2,564	857	1,371	184	25	202	201	321	430	9,128
Massachusetts.....		6	206	2	59	321	145	148	29	6	27	16	64	53
9 Mos.	51	2,281	22	582	2,056	1,024	1,535	233	50	293	127	424	560	10,340
Michigan.....		2	857	6	156	1,100	360	384	22	24	34	49	93	3,246
9 Mos.	15	9,966	62	1,788	8,618	3,246	2,003	187	143	362	315	625	1,490	30,470
Minnesota.....		225	2	30	449	103	203	6	21	9	10	72	1,143	
9 Mos.	4	4,375	47	578	4,114	1,015	1,903	82	126	114	54	163	459	13,034
Mississippi.....		400	1	40	326	100	111	9	8	4	1	28	1,030	
9 Mos.	4,063	6	328	3,249	947	1,157	80	58	31	51	54	243	10,267	
Missouri.....		633	6	86	548	207	213	9	11	11	13	15	58	1,810
9 Mos.	7,723	84	809	8,913	2,150	2,006	96	101	171	92	163	439	20,338	
Montana.....		165	32	109	46	72	1	10	1	11	35	15	567	
9 Mos.	1,722	15	330	1,884	802	799	35	33	57	88	256	210	5,639	
Nebraska.....		267	2	19	349	59	130	2	3	5	8	18	578	
9 Mos.	3,280	44	262	2,968	728	1,419	128	39	129	77	166	305	9,561	
Nevada.....		38	2	13	32	40	25	1	5	5	3	5	174	
9 Mos.	805	3	164	547	323	329	9	29	11	48	50	178	2,326	
New Hampshire.....		62	12	12	74	18	33	14	1	1	12	17	25	
9 Mos.	7	760	25	139	830	216	453	144	17	46	80	173	3,156	
New Jersey.....		14	306	5	77	541	177	261	43	9	38	27	68	1,729
9 Mos.	158	4,404	121	945	5,412	1,712	2,451	513	71	621	208	642	1,369	18,527
New Mexico.....		273	1	25	300	110	39	3	7	4	12	11	13	807
9 Mos.	24	8,532	114	313	2,232	816	475	19	50	36	97	113	127	7,189
New York.....		25	814	20	163	1,168	401	587	118	17	102	105	145	2,861
9 Mos.	329	8,080	126	1,896	10,027	3,188	7,174	958	131	1,272	678	1,352	2,822	39,541
North Carolina.....		1	620	21	145	804	145	139	33	21	17	15	29	61
9 Mos.	1	6,057	25	646	6,773	1,496	1,880	230	110	263	151	186	590	16,232
North Dakota.....		108	2	25	195	43	101	1	3	1	3	3	3	405
9 Mos.	1,297	13	200	1,188	281	764	1	20	2	10	31	46	3,056	
Ohio.....		607	9	107	895	253	500	36	28	42	68	83	194	2,336
9 Mos.	24	8,532	114	1,665	8,306	2,761	4,058	434	188	806	357	737	1,461	29,457
Oklahoma.....		751	60	787	189	197	8	11	7	8	5	24	2,033	
9 Mos.	8,224	11	684	5,565	1,280	1,649	76	77	146	55	96	199	16,866	
Oregon.....		467	1	75	524	266	211	29	40	55	14	51	125	1,877
9 Mos.	4,017	18	638	3,451	1,466	1,266	118	194	564	130	346	903	13,153	
Pennsylvania.....		16	871	23	210	1,052	335	631	98	27	70	98	167	1,500
9 Mos.	145	8,188	200	2,147	7,838	2,365	4,587	1,177	206	827	737	1,381	1,411	31,188
Rhode Island.....		1	30	27	75	28	28	11	1	4	2	23	2,265	
9 Mos.	3	361	2	78	563	107	255	64	13	26	7	42	255	1,776
South Carolina.....		362	28	348	88	90	6	5	6	8	3	31	316	
9 Mos.	3,103	3	395	2,737	588	762	91	22	94	65	44	309	8,213	
South Dakota.....		129	1	16	131	29	78	1	5	3	3	3	117	
9 Mos.	2	1,342	21	244	1,371	389	1,071	14	37	22	28	88	4,929	
Tennessee.....		279	1	44	446	186	149	20	8	13	18	50	1,209	
9 Mos.	4,151	12	87	4,459	1,340	1,521	274	50	246	97	125	343	13,865	
Texas.....		2,745	2	161	1,592	333	532	18	30	54	58	44	2,072	
9 Mos.	1	25,364	68	1,778	17,837	3,784	5,485	315	261	712	291	346	1,380	57,709
Utah.....		25	443	43	250	91	78	10	6	10	11	21	2,265	
9 Mos.	1,633	16	340	1,641	671	486	29	26	64	72	158	146	5,415	
Vermont.....		27	4	54	54	21	5	3	1	10	15	19	175	
9 Mos.	7	599	8	87	574	214	309	56	21	29	69	171	206	2,260
Virginia.....		354	2	74	828	100	169	25	15	12	18	30	112	1,450
9 Mos.	6	4,300	19	784	4,225	1,104	1,545	292	90	181	165	493	735	13,919
Washington.....		398	1	58	214	210	212	10	11	9	16	28	73	1,437
9 Mos.	1	3,825	15	517	3,395	1,630	1,407	28	81	124	82	241	660	12,076
West Virginia.....		170	1	25	177	71	47	10	9	11	24	42	28	815
9 Mos.	2,069	14	366	1,786	620	577	52	41	91	185	554	255	6,420	
Wisconsin.....		290	2</td											

Sealed Power

assembly features save fleets money!

Sleeve Features

FLANGE RELIEF

This undercut allows a finer finish in the flange area and truer, more uniform flange width.

UNIFORM WALL THICKNESS

Sealed Power finishes sleeves with a special process which eliminates the need for honing after installation. Comparative tests in fleet shops have proved this. Honing costs time and labor . . . destroys the scientifically developed, factory-applied, cross-hatch finish which cannot be restored in the field.

FINE CROSS-HATCH FINISH ON ID

This cross-hatch finish has been scientifically developed to aid quick ring seating and oil control. If destroyed by honing after installation, it cannot be restored in the field. And the resulting finish will not let the rings mate as smoothly and perform as efficiently as the factory-produced cross-hatch finish.

More costly ground finish on the OD—the type of finish on the OD is important because the problem of sleeve surface contact with cylinder wall is one of heat conductivity. The ground finish applied to Sealed Power sleeves furnishes almost 100% contact with the cylinder wall.

CHAMFER

Another example of Sealed Power quality construction. A precision chamfer on both the OD and ID. This chamfer assures easy installation into the cylinder block.



Piston Features

PREFERRED PERFORMANCE PISTON RINGS

The top compression rings in certain Sealed Power assemblies are made of Cyclan iron. Cyclan iron has more than double the strength of the finest standard iron so it overcomes top ring breakage. This is especially essential in heavy-duty operation.

The top compression rings in most Sealed Power assemblies are heavily chromed for extra long life . . . factory-lapped for quick seating. Depending on the application, the oil ring may be one of several heavy-duty oil rings developed by Sealed Power, the industry's ring leader. Or the oil ring may be the phenomenal, patented stainless steel oil ring.

GI-60 GROOVE INSERT

Pistons used in many Sealed Power assemblies are fitted with this famous heat-treated, spring steel top groove insert which eliminates top groove wear. Pistons with this insert often serve up to 200,000 miles with practically no top groove wear.

SPECIAL FACTORY FINISHES

All factory finished pistons are given a special protective surface to eliminate scuffing during the earlier stages of operation.

EXTREMELY STURDY CONSTRUCTION

All Sealed Power pistons have reinforcing metal where it counts. Pistons used in various assemblies feature forged aluminum construction . . . large pin bearing surfaces . . . characterized skirts for better lubrication . . . ground skirt finishes . . . Eatonite or Stellite plug in piston head.



PISTON PIN

A unique method of finishing the pin hole gives Sealed Power pistons the industry's finest pin fit. Piston pins themselves are superior in every detail—from the material used in their fabrication to the extremely close tolerances to which they are finished.

Sealed Power Motor Parts

SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

Preferred Performance

PISTONS • PISTON PINS • SLEEVES AND SLEEVE ASSEMBLIES • VALVES AND VALVE PARTS • TAPPETS • WATER PUMPS

December News Roundup

Hardeman buys Kilgore

WESTERVILLE, OHIO—Sale of Kilgore, Inc., to Hardeman Mfg. Corp. of Bolivar, Tenn., was announced last month. The Kilgore line of road flares and other products will be marketed by Harvell-Kilgore Corp., a new Hardeman subsidiary. Effective Feb. 1, 1961, Kilgore sales headquarters will be at 673 Clarence St., Los Angeles 23, Cal.

New carrier service

OZONE PARK, N. Y.—A safety engineering and vehicle inspection service is now being offered to motor carriers by Charles J. Firmbach. The service covers many elements of a fleet safety program. Details are available from Charles J. Firmbach Co., 135-22-96th St., Ozone Park 17, N. Y.

Cites campaign against private oil-truck fleets

CHICAGO—A "strong and continuing attack" against private truck fleet operations in the oil industry was cited by F. B. Hufnagel, Jr., at a recent meeting of the Transportation Club of the Petroleum Industry here. Hufnagel is assistant to the marketing

Month	1960 Domestic Truck Factory Sales by GVW											
	6,000 lb. and less	6,001-10,000 lb.	10,001-14,000 lb.	14,001-16,000 lb.	16,001-18,500 lb.	18,501-20,000 lb.	20,001-33,000 lb.	33,000 lb. and over	Over 33,000 lb.	Total		
January	51,908	14,438	1,111	2,862	15,484	4,985	2,934	2,566	96,178	96,178		
February	57,488	15,286	986	2,611	13,261	6,094	3,299	3,309	102,305	102,305		
March	58,878	15,714	986	2,402	12,282	6,182	3,768	3,502	105,438	105,438		
April	49,780	14,963	681	2,302	12,282	6,182	3,768	3,406	92,557	92,557		
May	48,216	13,738	900	2,294	13,646	6,073	3,188	3,214	91,268	91,268		
June	48,021	12,960	885	2,403	12,826	5,899	2,930	2,968	89,022	89,022		
July	30,861	9,833	710	2,284	10,275	5,166	2,420	2,504	64,053	64,053		
August	25,995	8,486	520	2,484	8,418	3,686	1,990	1,782	53,331	53,331		
September	35,841	9,116	715	1,946	10,522	3,848	2,064	1,860	66,006	66,006		
9 Mos.—1960	406,178	114,499	7,877	21,388	110,185	48,758	26,260	25,133	760,158			
9 Mos.—1959	378,949	116,055	10,018	64,540	87,171	44,871	25,870	28,302	788,978			

Source: Automobile Manufacturers Association.

vice president, Sun Oil Co., Philadelphia. He called for greater appreciation of the value of private fleets and urged transportation unity rather than a battle between common and private carriers.

Safety director award to Joseph T. Jenkins

NEW YORK CITY—First winner of the American Trucking Assn.'s Safety Director Award is Joseph T. Jenkins of Kingsport, Tenn. He is the safety director of The Mason and Dixon Lines, Inc. The fleet has a long string of safety awards to its credit. Jenkins himself was the 1958 winner of the National Safety Council's Marcus A. Dow award. The ATA award is sponsored by Transport Insurance Co., Dallas, Texas. It was presented at the ATA Convention.

Edward F. Coogan dies, was Autocar president

EXTON, PA.—Edward F. Coogan, former president of the Autocar Co., died Nov. 13 at the age of 71. He was born in West Springfield, Mass., started off as a mechanic for the Pierce Arrow agency in New Haven, Conn. He joined Autocar at its New Haven branch, worked up the ladder to district manager, sales manager, executive vice-president and was president at the time of merger with the White Motor Co. He retired

shortly after the company moved from Ardmore to Exton.

1960 Truck Trailer Shipments

Type of Trailer	September	Nine Months
Vans		
Insulated and refrigerated	384	4,387
Steel	32	607
Aluminum	352	3,780
Furniture	79	1,680
Steel	63	1,476
Aluminum	16	220
All other closed-top	1,750	20,675
Steel	515	4,944
Aluminum	1,225	18,731
Open-top	168	2,212
Steel	49	621
Aluminum	119	1,591
Total Vans	2,381	28,974
Tanks		
Non- and low-pressure		
Petroleum		
Carbon and alloy steel	105	1,171
Stainless steel	10	197
Aluminum	131	1,386
Total—Petroleum	252	2,748
Chemical, food, fluid solids	55	587
All other, incl. aircraft refuelers	32	986
High-Pressure (LPG), chemicals, etc.	25	266
Total—Tanks	384	4,186
Pole, pipe and logging		
Single axle	17	170
Tandem axle	28	650
Total	45	820
Platforms		
Racks, livestock and stake	33	336
Grain bodies, all types	61	631
Platforms (flats), all types	496	6,667
Total—Platform	590	8,218
Low-bed heavy haulers	155	1,615
Dump trailers	87	1,211
All other trailers	301	2,732
Total—Complete Trailers	3,923	48,156
Dump trailer chassis	18	654
Trailer chassis only	172	2,423
Total—Trailers and Chassis	4,114	51,233
Detachable Van Bodies	100	2,570

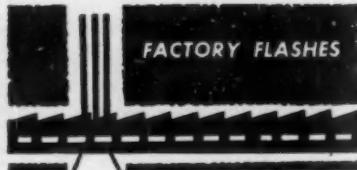
Source: Industry Division, Bureau of the Census.



Ringsby Truck Lines, Denver, Colo., presented awards to 51 drivers "for their contribution to Ringsby's safety record on the highways." Each man has driven exclusively for Ringsby for the past 20 years.



Evening Star Newspaper Co., Washington, D. C.—25 International Harvester Model No. AM-122 trucks with Metro bodies, as added equipment. The fleet now totals 143 units. More details? Circle 310 on reply card

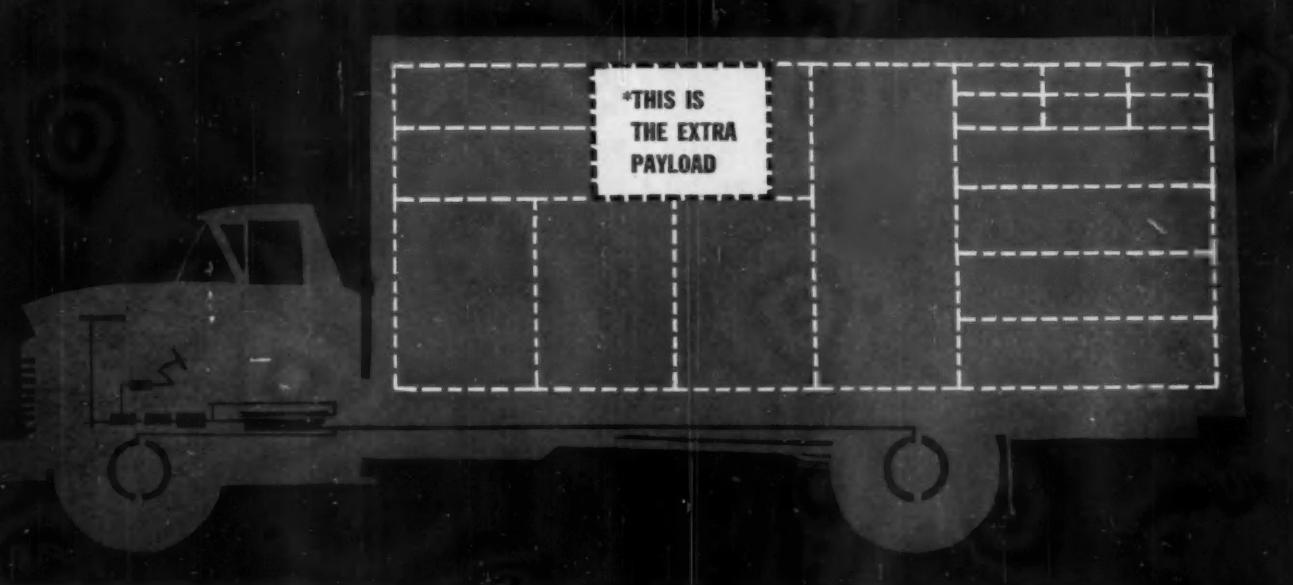


Great Dane Trailers, Inc., Savannah, Ga., has named Smoot Langston as the company's vice president in charge of sales in the Southeast. Langston is president of Great Dane Trailer Sales, Inc., Atlanta, Ga.

BENDIX

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More Bendix Hydrovac vacuum power brakes are in use than all other makes.

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ELECTRIC ENGINE HEATER

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Hit the starter and you're off — come cold weather or troublesome condensation in the block!

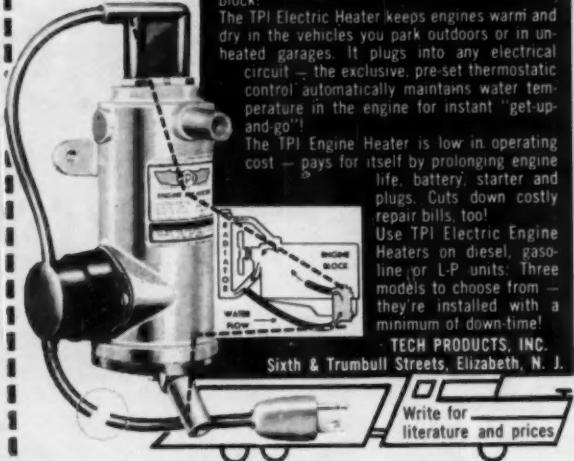
The TPI Electric Heater keeps engines warm and dry in the vehicles you park outdoors or in unheated garages. It plugs into any electrical circuit — the exclusive, pre-set thermostatic control automatically maintains water temperature in the engine for instant "get-up-and-go"!

The TPI Engine Heater is low in operating cost — pays for itself by prolonging engine life, battery, starter and plugs. Cuts down costly repair bills, too! Use TPI Electric Engine Heaters on diesel, gasoline or L-P units: Three models to choose from — they're installed with a minimum of down-time!

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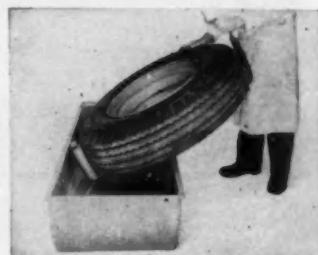
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Just roll wheel to changer, lay it on the air powered chuck, mount and demount tires with power driven rotating arm. All heavy lifting and hard work is eliminated. Handles all drop center wheels and rims 17.5 through 24.5—14 ply. BISHMAN #932 Electric Tubeless Truck Tire Changer.

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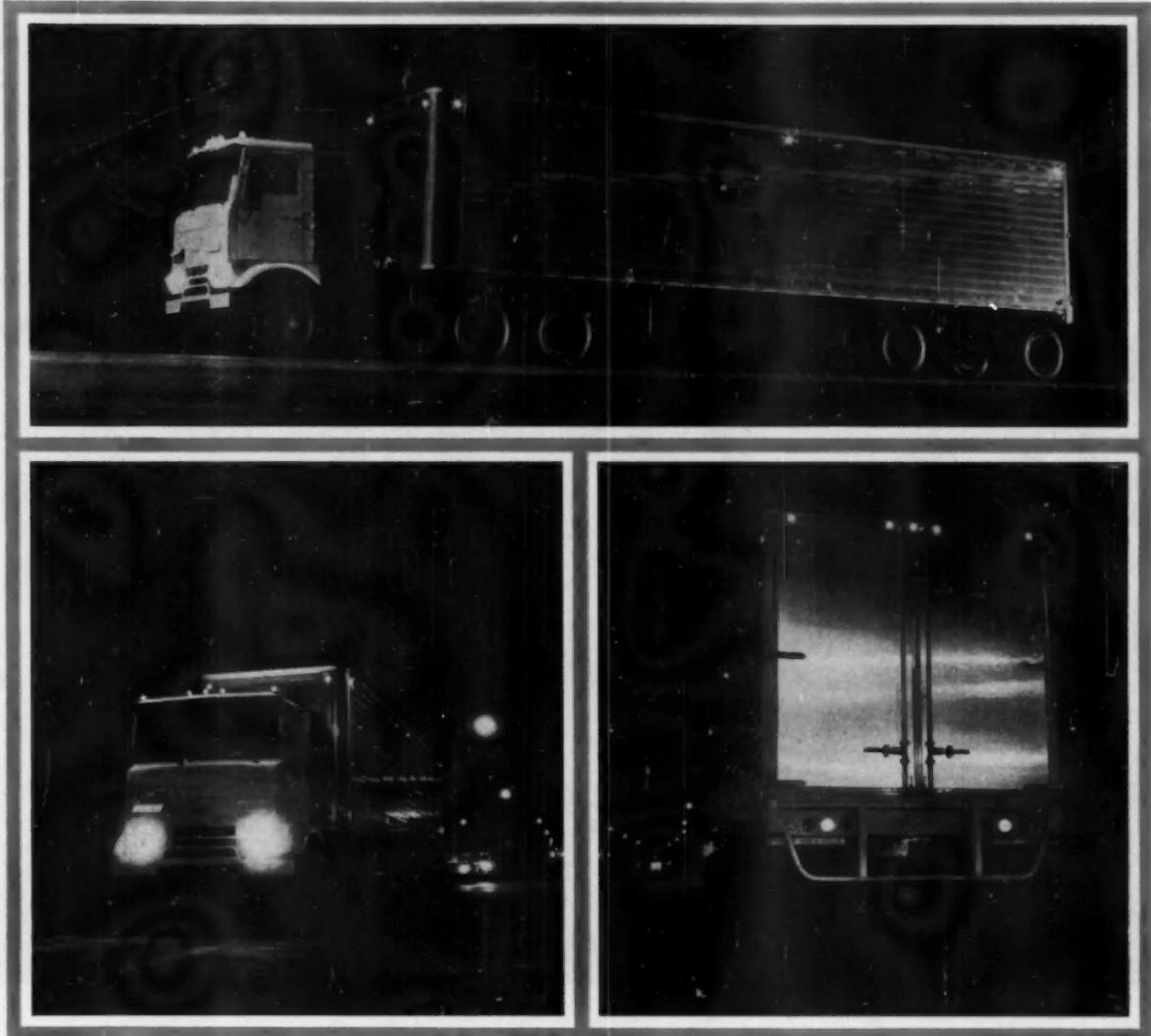


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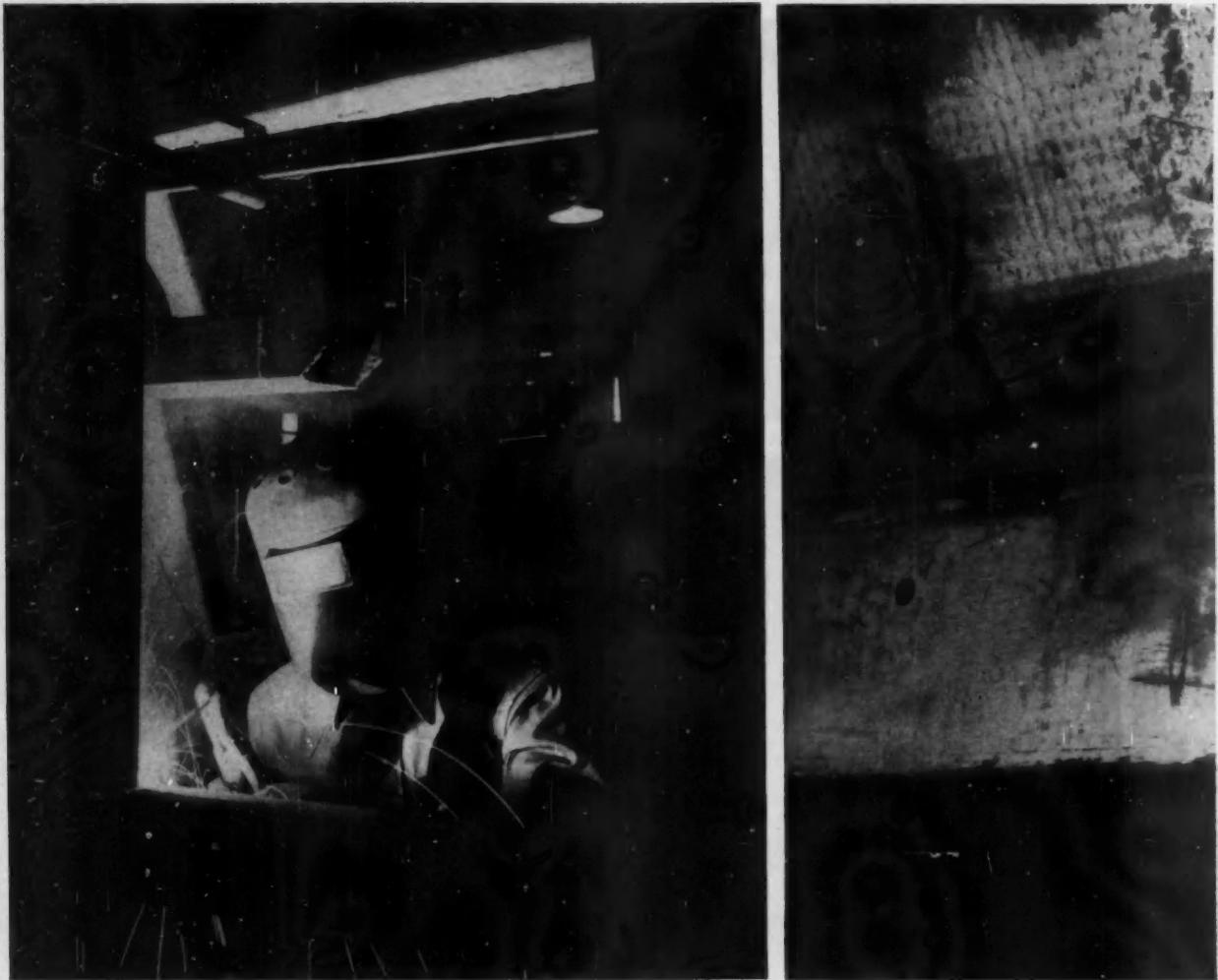


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Super-strong trailer built 2,850 pounds

This 32-ton trailer is a progressive example of how to get maximum strength with least weight and low cost. The main frame members are a wide-flange beam design built up by welding USS "T-1" Steel plates together. "T-1" Steel, with a minimum yield strength of 100,000 psi, has enabled the Engineering Department of Martin Trailer Division of the Hyster Company to design to approximately two times their normal static stress and still maintain adequate factors of safety.

Eight-foot cross members are formed channel sections of USS MAN-TEN High Strength Steel,

which has a minimum yield point of 45,000 psi in thicknesses of $\frac{3}{4}$ " and under. The combination of these two USS steels produced a weight saving of 2,850 pounds and represents a 21% decrease in dead weight of the unit.

Welding procedure. The "T-1" Constructional Alloy Steel beams are welded by submerged arc. The MAN-TEN Steel cross members are tack-welded to the main beams of "T-1" Steel, then finish welded by the shielded arc method.

"T-1" and MAN-TEN Steels pay off. The trailers are built by the Martin Trailer Division of the



This mark tells you a product is made of modern, dependable Steel.



lighter with "T-1" and MAN-TEN Steels

Hyster Company, Kewanee, Illinois. Mr. Rex A. McCormick, Assistant Sales Manager, says, "The end result of using extra-high yield strength steel is worth what it costs. Reception of the 'T-1' Steel units has been enthusiastic."

If you are building any equipment, mobile or stationary, that must be made stronger, lighter and more resistant to impact abrasion or corrosion, find out how these brands of special steel can help you—USS "T-1", MAN-TEN, COR-TEN, and TRI-TEN. All are weldable . . . all have special properties that result in longer service life and lower operating costs.

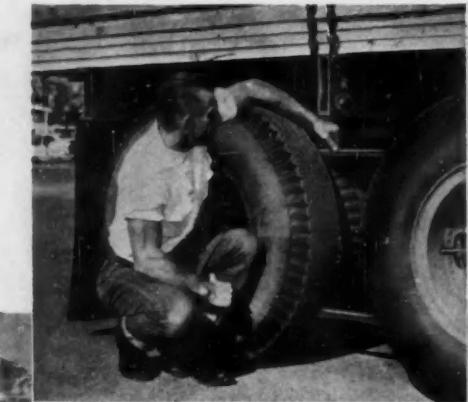
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United States Steel

Watch United States Steel's special Christmas show, *The Coming of Christ*, in Color on NBC-TV, Wednesday, December 21, 8:30 P.M., E.S.T.



"I haven't had to chain up in 3 years, thanks to Gates Tandematic Drive"

...says Charles Worthman, owner-driver for Worthman Trucking, Inc., Denver, Colorado.



Specially hardened Red Groove Pulley

Has more than 3 times greater life than ordinary pulleys. (Gates Red Grooves have a hardness rating from 430 to more than 600 on the Brinell hardness scale.)

Roll-on feature (U.S. Patent No. 2,913,915): Split construction permits pulley groove to be offset, so belt can be rolled on at high tension easily and safely.

Self-cleaning: Open design insures peak operating efficiency at all times.

Gates Tandematic Drive gives you BOTH

Rib-Top V-Belt

Protective ribbed top:
Resists sandblast effects from wheels.

Flex-Weave cover:
Protects vital core of belt.

Concave sidewalls:
Concave sides increase belt life.

Special tensile cord construction:
Greater resilience of Gates tougher tensile cords enables belt to absorb shocks and carry extra heavy loads.



Chuck Worthman has been hauling lumber over the Continental Divide for 25 years. That's rough duty anytime—but especially in winter. Always on the lookout for ways to make his rig safer and easier to drive on these tough hauls, Chuck bought a Gates Tandematic Drive three years ago.

"The Gates Drive was easy to install," Mr. Worthman tells us. "I put it on my rig myself. And I leave the drive on all year around for safer and more positive braking. That's a must on mountain passes. With the Gates drive I make good time over the passes on every haul—winter and summer—when other rigs are stuck or creeping. *In three years I've never even had to 'chain up.'*

"Also, I've found that I can haul a bigger load since I put on the Tandematic. I was carrying about 33,000 pounds of lumber when the picture was taken on Loveland Pass.

"I've got better than 200,000 miles on the present belt. It's still going strong. And I've noticed that my tires are lasting much longer."

The Gates Rubber Co., Denver, Colorado
Gates Rubber of Canada Ltd.
Brantford, Ontario

World's Largest Maker of V-Belts



TPA 1007

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new
power!

WITH NEW WHITE
**SUPER
MUSTANG**
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6&V8

WHITE'S new Super Mustang conversion package lets you step up your present truck power to as much as 235 H.P.

Now you can take advantage of increases in state weight laws—move bigger payloads faster, with greater economy.

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New WHITE Super Mustang en-

gines, plus complete step-by-step Installation Kits, are available at WHITE branches and distributors. Step up now to new heavy-duty power, new profit-making performance.

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Same free service applies to the products described by advertisers in this issue. For further details on the products, circle on the same reply card the numbers that are adjacent to the ads about the products and services you'd like to know more about.

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And—if there's some problem giving you a special headache, don't reach for the aspirin. Use the special reader service numbers at the right instead. It puts CCJ's editors to work for you, helping to find the answer to your question.

to write the editors



in publications for fleets

Truck-drivers' daily-log books meet ICC regulations requiring companies engaged in interstate commerce to have drivers complete daily logs. Two books are available, each containing 31 sets of the standard ICC Form No. BMC 59, with carbon. One is the duplicate Guide-On log book for use by firms which operate and maintain their own vehicles.

For more information, circle 348 on reply card inside back cover

Second is the triplicate Guide-On log book for companies which lease, rather than own their trucks.

For more information, circle 349 on reply card inside back cover

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NAME OF FLEET

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NO
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Dec. 1960 (do not mail after Feb. 28, 1961)

COMMERCIAL CAR JOURNAL

NAME

POSITION

SERVICE

NO
FACILITIES?

YES

NAME OF FLEET

ADDRESS

No. of vehicles: Trucks Tractors Trailers Psg. Cars Other

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in publications for fleets

It's easy to get more details about the items described. Just fold out and use free reply cards facing this page

Insulated bodies

for ice cream, wholesale or retail milk delivery, or tanks for bulk milk pick-up were on show at the Dairy Industries Supply Assn. exhibit early last month in Chicago. Fleet managers not able to attend will probably find interesting the folders listed below describing a few of the insulated bodies featured at the show.

Heil Co., Milwaukee, Wis., featured its compact, rectangular, plastic, insulated tank bodies for bulk milk pick-up. They're fully described in the company's Bulletin No. MT-58202.

For free copy circle 354 on reply card

Hackney Bros. Body Co., Wilson, N. C., displayed a body typical of its line of reach-in ice cream bodies with 128 to 180 in. inside length. They're the company's RB series as described in a recent bulletin.

For free copy circle 355 on reply card

Meyer Body Co., Buffalo, N. Y., had a dolly-loading ice cream body with 1800-gal capacity on six dollies plus 1200 gal in the aisle and rear of dollies. Bulletin No. 160 tells about it.

For free copy circle 356 on reply card

Batavia (Ill.) Body Co. ice cream bodies, illustrated by models at the show, range from 1100 to 1625-gal capacity. Recent bulletin from the company shows construction in great detail.

For free copy circle 357 on reply card

Boyertown Auto Body Works, Boyertown, Pa., offered several milk delivery units—Models No. DS-6, DS-7, DS8-L, IDS8-L for retail use and three wholesale bodies in its Merchandiser series.

For free copy circle 358 on reply card

Hackney Bros. offered its wholesale milk delivery bodies in three series—C, LRB and HRB—of five models each. The HRB's are level floor models.

For free copy circle 359 on reply card

Retail milk delivery bodies from Hackney offered at the show and de-

truck drivers has just been published by National Safety Council. It bets that you'll want enough for all your drivers, will prove its point by sending you one free. It not only includes winter driving techniques—proved in actual tests, but also handy winter truck equipment and some special hazards disclosed by recent research.

For free sample copy, circle 350 on reply card inside back cover

Fleet managers with a special interest in the financial side of fleet operation might like to add this one to their information sources. It's a 57-page report on the motor carrier industry and the factors affecting its future . . . plus facts on the motor carriers offering their securities for sale to the general public. Cost ranges from \$2 to \$1.50 a copy depending on how many you want. Shields & Co., New York City, will be glad to send you details.

Why do we need more highways? You are probably asked this question quite often. Many askers probably imply that they're being built just for you as a commercial fleet operator. It isn't so. And from Iowa Mfg. Co., Cedar Rapids, Iowa, comes a handy 4-page answer. Get one copy, (it's free) and you'll probably want more for your own distribution.

For free sample copy, circle 351 on reply card inside back cover

Sizes and weights, taxes and fees, and permissible combinations are all digested in easy to locate form in Commerce Clearing House's 1960 edition of its *State Motor Carriers Handbook*. All 50 states and the District of Columbia are covered—with data given in effect as of Sept. 1, 1960. The 376-page book sells for \$3.50.

For further details, circle 352 on reply card inside back cover

scribed in recent bulletins on its TCRD series include six models—three with the level floor feature.

For free copy circle 369 on reply card

Batavia Body Co.'s offering in wholesale milk delivery units includes six bodies ranging from 105 to 191 in. in inside length with 69-in. inside height and 82½-in. inside width, says its recent descriptive folder.

For free copy circle 370 on reply card

Diesel fuel additive "OFA 265" is described in a 13-page brochure from Oronite Chemical Co., San Francisco, Cal.

For free copy circle 371 on reply card

Special winter driving booklet for truck drivers has just been published by National Safety Council. It bets that you'll want enough for all your drivers, will prove its point by sending you one free. It not only includes winter driving techniques—proved in actual tests, but also handy winter truck equipment and some special hazards disclosed by recent research.

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For further details, circle 352 on reply card inside back cover

Automotive hardware of all types for all equipment applications is illustrated with complete specifications in a new catalog (Form No. 38-133) from Stewart-Warner Corp., Chicago.

For free copy circle 372 on reply card

New diesel series from Diamond T Motor Truck Co., Chicago, is subject of a full-color, 6-page brochure. The huge new 931 series has up to 60,000-lb GVW rating and GCW rating up to 78,000 lb. Diamond T says it's "built for the big jobs."

For free copy circle 373 on reply card

AUSCO

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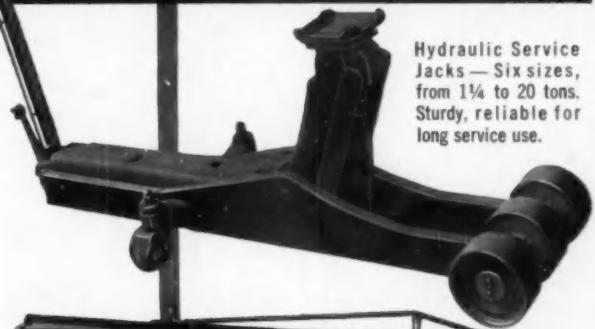
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Ausco Hydraulic Hand Jacks. Nine sizes, 1½ to 100 tons capacity.



Hydraulic Service Jacks — Six sizes, from 1½ to 20 tons. Sturdy, reliable for long service use.



Hydraulic One End Lift with big 10" rubber wheels at no extra cost. 1½ tons capacity.

New Ausco Air Lift gives fastest easiest one-end lift. Big 10" rubber wheels at no extra cost.

Heavy-duty transmission handler for car and truck transmissions, differentials, etc. 2000 lbs. capacity. Other models available, mechanical and hydraulic.

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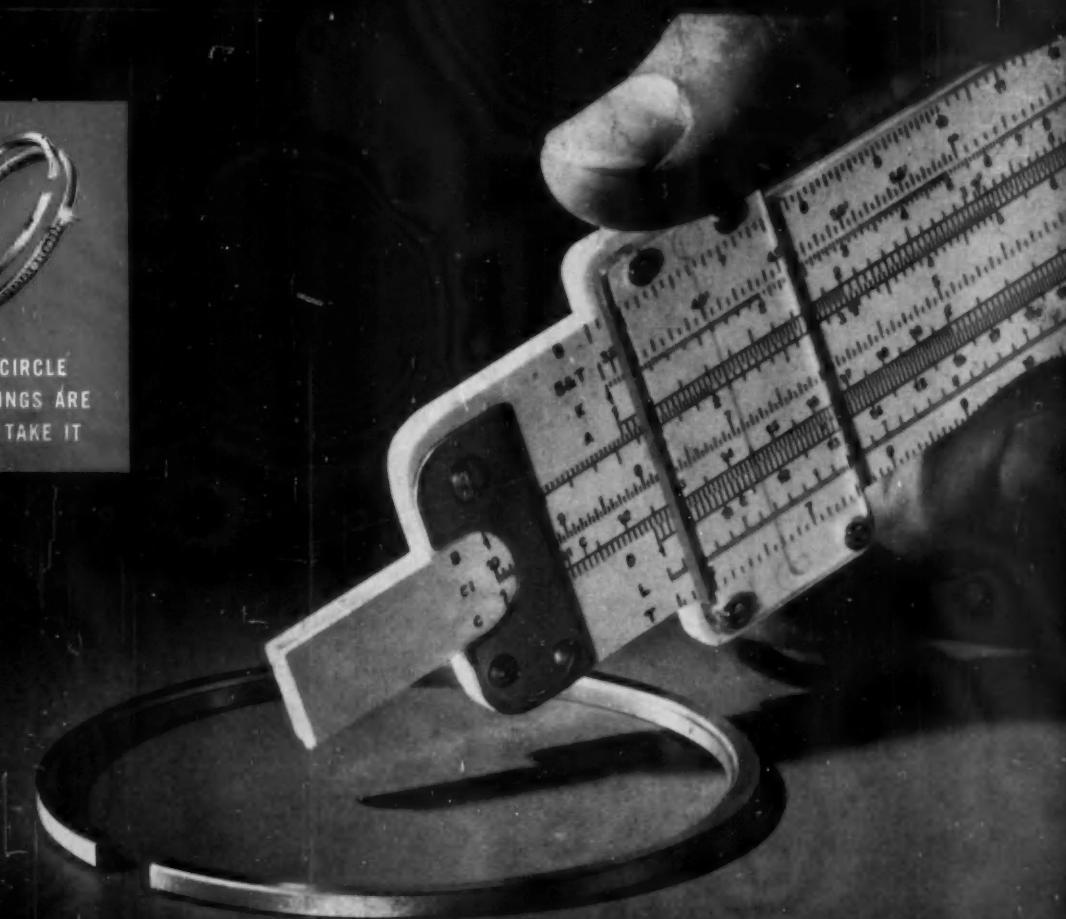
● More details? Circle 127 on reply card inside back cover



Mobile Shop Cranes from ½ to 1 ton. Also truck-mounted, electric or manual.



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